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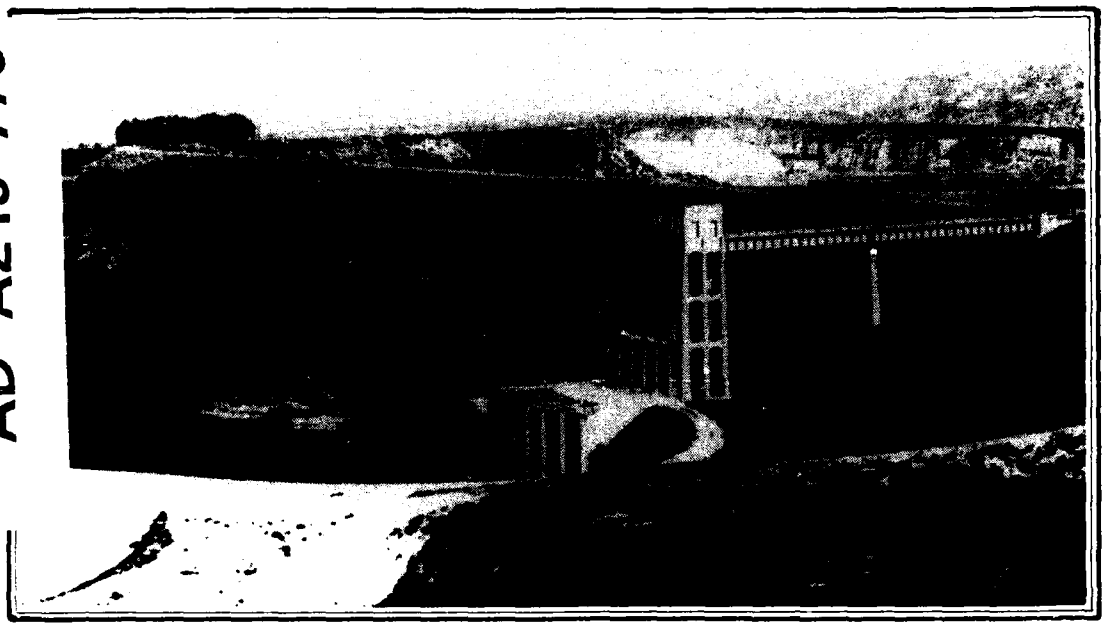
CONTEXT EVALUATION OF HISTORICAL SITES IN THE PRADO BASIN



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CONTEXT AND EVALUATION OF HISTORICAL SITES IN THE PRADO BASIN

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This document combines a context evaluation report with assessment of the historical sites within the Prado Basin, a study area defined by the elevation of 566 feet amsl.

The historical context of the cultural resources is set forth in a general overview, augmented by more detailed discussion of such topics as transportation, water systems, and architecture. These were selected from the range of historical themes to illustrate the current level of understanding, apparent

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data gaps, and explicit questions generated which warrant further study and which are used, in turn, in considering the potential research value of each site.

On the basis of all prior historical studies, test excavations, remote sensing, and updated field inspections, each known site was evaluated for its eligibility to the National Register of Historic Places in terms of its integrity and potential to yield important information pertinent to the research design.

The study concludes with a recommendation that Prado Basin be nominated to the National Register as an historical district, and other suggestions for the management of significant historical properties.

ABSTRACT

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1. INTRODUCTION

Nature of the Investigation

This study was undertaken for planning purposes. The U. S. Army Corps of Engineers anticipates activities which will affect historic archaeological sites in the Prado Basin and in the Lower Santa Ana Canyon below the existing dam. Existing data which have accrued from a number of surveys, test excavations, and overviews have been synthesized with the results of some additional research into newly discovered primary sources to generate a regional research design. The immediate objective of the document is to serve as the basis for the evaluation of the historical sites in terms of their eligibility for the National Register of Historic Places (NRHP). The results will be used by the Corps of Engineers for such project planning purposes as developing a mitigation program to minimize impacts to significant cultural resources, and in recommending project and land use alternatives.

The region potentially subject to impact includes portions of San Bernardino, Riverside, and Orange Counties (Figure 1.1) which are depicted on the Prado Dam, Corona North, and Black Star Canyon USGS 7.5' quadrangle maps. For the purpose of this report, the study area was defined as all lands behind Prado Dam up to the elevation of 566 feet amsl and an additional area below the dam which corresponds roughly to the south bank of the Santa Ana River (Figure 1.2). Sites within this boundary which have been assigned either temporary field numbers or state trinomials presently number 202. Of these, 12 have been recorded with Riverside County trinomials, 6 with San Bernardino County trinomials, and the remaining 184 have been described historically or archaeologically, but not formally recorded.

Environmental Setting

The Prado Flood Control Basin as a whole covers approximately 9000 acres of lowland behind the dam and spillway, northwest of Highway 91 and the city of Corona. As visualized today, the basin appears as a densely vegetated riparian habitat bounded on the west by the Chino Hills and the lower slopes of the Santa Ana Mountains to the south. A rim of low hills on the north forms a boundary between the basin and the Claremont plain below the San Gabriel Mountains. On the east are granite hills typified by the Jurupa Hills west of Riverside and the knolls on both sides of Highway 91 (Greenwood et al. 1987:2). The topography in the northwestern area consists of hilly and broken slopes of the Chino Hills which rise above the floodplain of Chino Creek. The land toward the northeast is low and historically subject to seasonal inundation.

The main hydrologic feature is the Santa Ana River which, in this vicinity, flows westward between its much-faulted and folded canyon walls. Among its tributaries which also influenced settlement and development patterns throughout history are Mill, Chino, and Cucamonga creeks. The major drainages converge from the north and northeast into the basin.

Figure 1.1

Vicinity Map

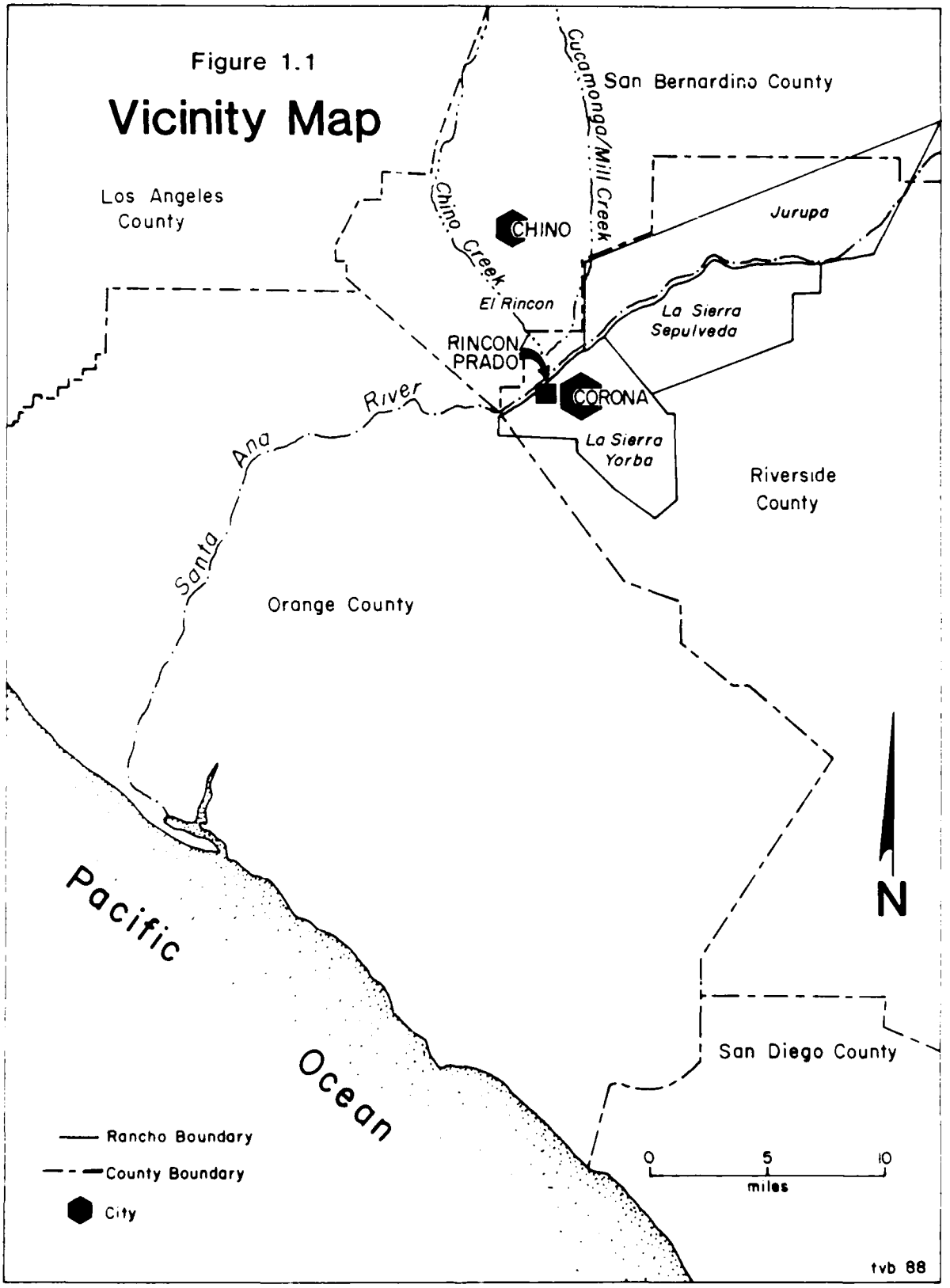


Figure 1.2

(Figure 1.2 in rear pocket)

The underlying geology of the Prado Basin is mainly upper Miocene marine sedimentary rock of the Puente and Monterey formations (Langenwalter and Brock 1985:2.3). The soils are colluvial and alluvial deposits resulting from runoff from the Chino Hills and flooding of Chino Creek and the Santa Ana River. The overburden along the river, creeks, and the bottomland can be characterized as a Yolo or Chino silty clay loam. Hanford soils occur in the northeastern and northern portions of the study area; these are sandy silt loams noted for their fertility. In the mesa area is a Ramona clay loam which may overlie a gravelly clay loam. This heavy Mesa topsoil is a clay which has been utilized for the manufacture of ceramic products. When properly drained, the bottomland along the creeks is very productive for agriculture (Greenwood et al. 1987:4-5).

The indigenous biotic community on the plain was a Coastal Sage Scrub, although historical land use has precipitated major changes in the floral landscape. The basin also supported fairly significant riparian vegetation in the lower elevations along the streams. Although the willows have survived, the cottonwoods and sycamores are increasingly replaced by eucalyptus which were introduced around the turn of the century and have flourished in the rising water table. The current overbank deposits are heavily overgrown with cockleburrs, which thrive on fresh silt. The successor plant farther from the stream banks is the amaranth, which does not require damp, replenished silts, while the sunflower and thistle have become established in areas more remote from moisture (James Schoenwetter, personal communication 1986). Among the surviving exotic species observed at historical site locations for which no other remains are visible on the surface are date and fan palms, pampas grass, and pepper trees.

In addition to the natural resources of soil and water which were so fundamental to the area's history, subsurface mineral deposits, not necessarily within the strict boundaries of this investigation, have also influenced population, transportation corridors, the local economy, and the relative success of Rincon/Prado as compared to Chino. Documentary research revealed a late nineteenth century claim for a tin mine in Temescal Canyon, eventually bought out by British interests, and a feldspar deposit, quarried in the early twentieth century in Prado Basin, near the intersection of Highway 71 and the Riverside Freeway (Roger Hatheway, personal communication 1988).

The clay beds of San Bernardino and Riverside Counties led to a regional industry in both extraction and the production of fired ceramics products (Figure 1.3). It does not even suggest the importance of this natural resource to mention that in 1926, Riverside County produced 30.7 per cent of all the fire bricks manufactured in California; it was second in quantity and value to Los Angeles, but major clay sources in the Alberhill District and other deposits were owned by Los Angeles firms which shipped the clays to their home plants for manufacture (Dietrich 1928:32). The major deposits nearest to the study area were the Goat Ranch/Claymont Mines and McKnight Mine, both exploited in the 1890s (Figure 1.4). The Los Angeles Pressed Brick Company owned a deposit of blue flint clay in the Goat Ranch beds "a few miles from Prado," and the Pacific Sewer Pipe Company, whose plant and offices

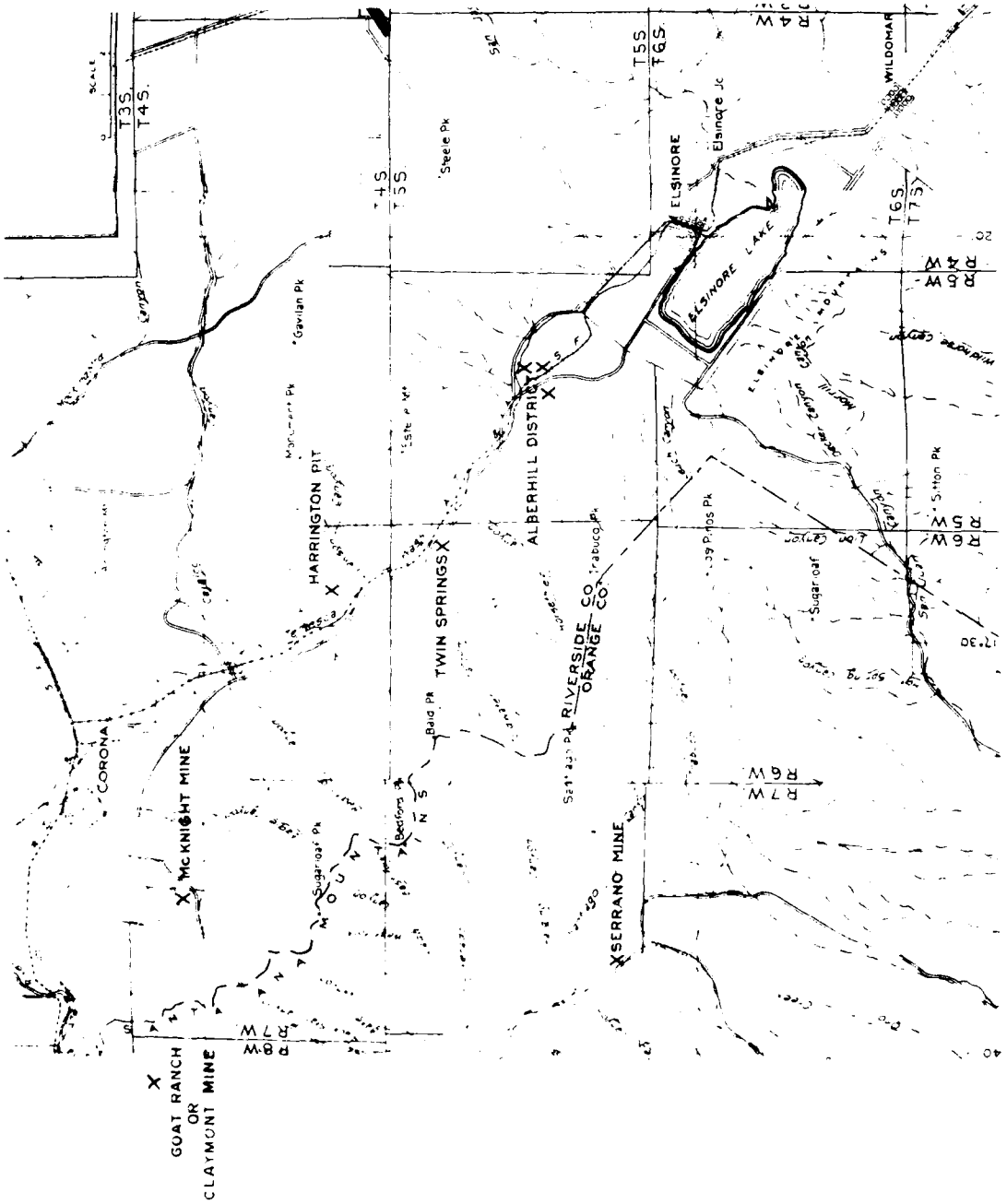


Figure 1.3. Major Clay Type Localities (Sutherland 1935: Plate 1).

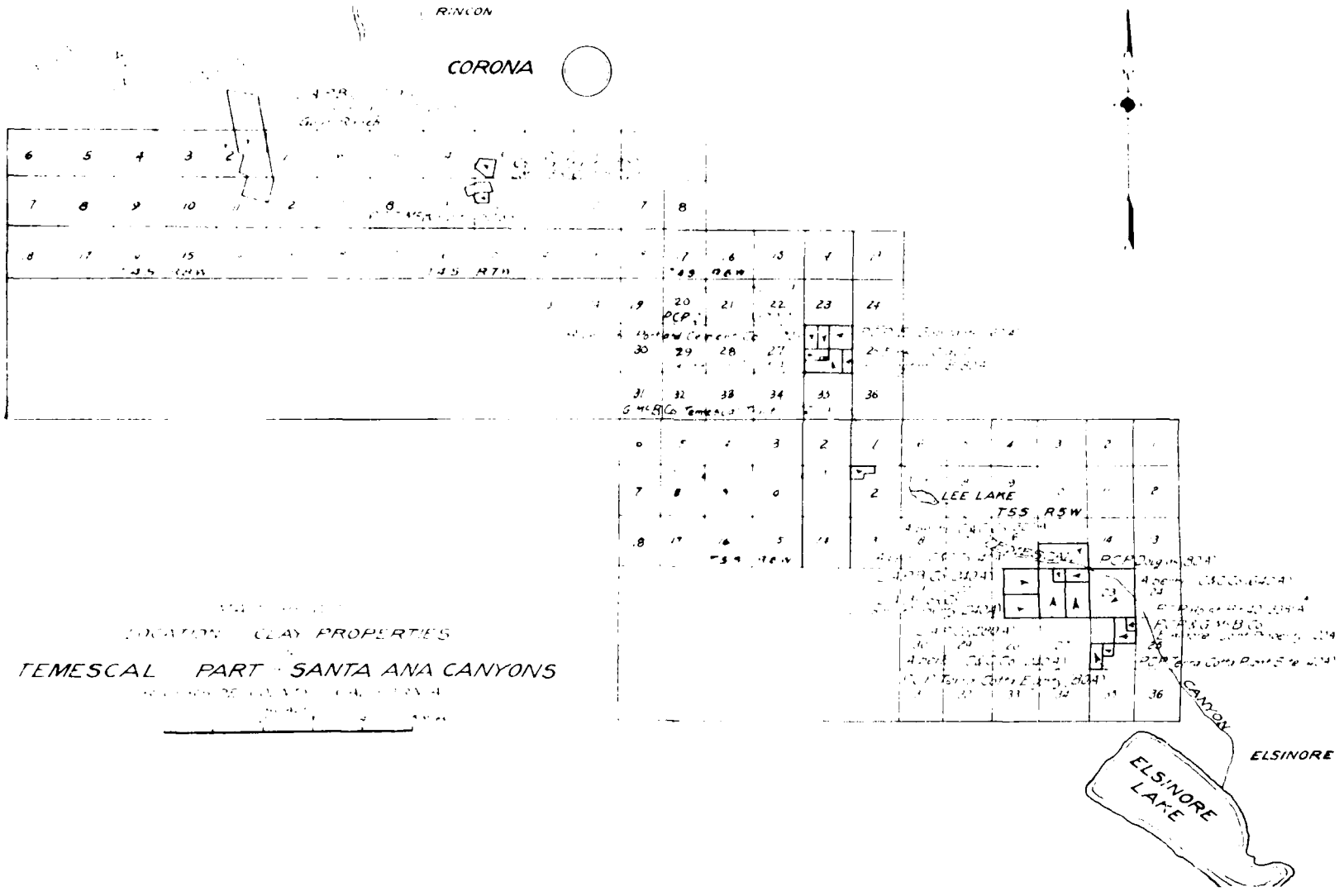


Figure 1.4. Major Commercial Clay Properties (Dietrich 1928).

were also in Los Angeles, controlled clay beds southwest of Corona (Boalich et al. 1920: 66, 89). Smaller enterprises utilizing local clay beds were the Corona Pressed Brick and Terra Cotta Co., operating in 1905 (Forstner et al. 1906:223); the Prado Tile Co., also at various times called La Olla Tile Co., and the Casa Blanco Tile Co. (Gray 1961:63); and the small retail kilns in Rincon/Prado which were discovered archaeologically (Greenwood and Foster 1987). More remote in distance but also contributing to regional employment, development of transportation, and settlement were the precious metals, gold and silver. The discoveries of gold in Holcomb Valley in 1860 and at Lytle Creek in 1364 led to an influx of prospectors, placer and hydraulic mining, stamp mills, and flumes to create water pressure (Arnold et al. 1987:40-41). Silver districts operating from 1862 into the 1880s were not within the study area, but also funneled population, supplies, and capital through the region.

Major crops during the historical period have included forage for cattle, winter grains (wheat and barley), alfalfa, grapes for wine and raisins, orchard fruits, and cash crops such as beans. Animals raised commercially include cattle (hides and tallow early; dairy animals currently), horses, sheep, chickens, turkeys, and hogs. At least in the later years, much of the volume was shipped directly to the Los Angeles market.

There was a brief flurry of exploration for oil and gas in the 1930s, after production was established in the Long Beach and Santa Fe Springs oil fields. The first series of appraisal reports generated by Orange County did not mention oil leases on the properties, but some of the 1940s appraisal forms completed by the CoE included a line item about the presence of minerals, gas, oil, or other leases. There were about a half-dozen leases explicitly mentioned, although the total may have been higher. The entry for Parcel 513, for example, reads: "No mineral occurrences. Oil possibilities considered highly speculative. Land now under lease for oil" (CoE, real property records). As of 1985, there were seven oil and gas leases issued, two of them containing producing wells, plus 26 abandoned dry holes and 13 completed oil wells. The area most intensely explored was in the southwest corner of the Basin, north of Prado Dam (USA 1985:101-106). Oil and gas leasing is administered by the Bureau of Land Management.

Summary of Previous Studies

The following information summarizes the known work that has been conducted in the region surrounding the Prado Basin, providing, when the data are available, contemporary descriptions of the site, types of cultural resources reported, extent of the work conducted, the purpose for the archaeological work, and changes to the site resulting from impacts.

1934
The Historic American Buildings Survey (HABS): Yorba-Slaughter Adobe.

This was the first structure in the region to be recognized at the national level, although the recording was less comprehensive than later HABS measured drawings. A photograph supposedly made in 1866 was originally part of this documentation, but has never been located.

1936
Historic American Buildings Survey: Bandini-Cota Adobe.

The adobe was recorded with measured drawings of the first and second floors, plus elevations and details of all four sides (Greenwood, Frierman, and Foster 1983:4).

1975
N. Nelson Leonard, III. Santa Ana River Project Description and Evaluation of Cultural Resources, and Appendices: Field Data by Matthew C. Hall.

Areas within Prado Basin, together with other properties above and below the dam, were investigated with overview and survey. Historical sites discussed within the study area include ACE-SAR-H2A (now CA-RIV-1039) and -H2B (now CA-RIV-1044); ACE-SAR-H3, the Bandini-Cota Adobe, now CA-RIV-653; ACE-SAR-H4, CA-SBR-1543; ACE-SAR-H5, the Yorba-Slaughter Adobe, now CA-SBR-2317-H; and three additional upstream sites, including the Agua Mansa Cemetery. The basin was described as "a very sensitive area archaeologically," and it was noted that the coterminous aboriginal and historical remains at CA-RIV-653 would be submitted to the NRHP (Leonard 1975:18, 21). It was recommended that the Yorba-Slaughter Adobe should be protected from any impact by flooding, but the other sites were regarded as relatively recent and they were not evaluated under the NRHP criteria. In his Appendix volume, Hall reported that the Agua Mansa Cemetery is a California Historical Landmark and would be eligible for listing on the National Register (1975:III-6).

1977
R.C. Tobey, T.D. Suss, and L. Burgess: Historical Resource Survey, Prado Flood Control Basin, San Bernardino and Riverside Counties, California.

This report provided an historical context and described nine historical sites within Prado Basin. Of them, the Bandini-Cota Adobe was considered to be eligible for nomination to the NRHP for the following reasons:

> [It] emphasizes cross cultural and historical significance of the Mexican period and American era... occupants were significant individuals in history...[The adobe remains] qualify as the distinctive characteristics of a type, period, or method of construction... and may be likely to yield information important in history [Tobey et al. 1977:20-21].

The other identified sites are regarded as too recent to be significant, or ineligible for nomination because they are not of "outstanding characteristics, importance, or architectural distinction and

integrity" (Tobey et al. 1977:21). The Butterfield Stage route was considered a possible candidate for inclusion in the NRHP, although it was not formally evaluated.

1980
Greenwood and Associates: Cultural Resource Overview for the Serrano Substation to Mira Loma Substation Transmission Route Alternatives Corridor Right-of-Way.

The cultural resources portion of this transmission project was prepared for Southern California Edison Company and passes to the north of the project area. It provides a background history for the area and description and inventory of cultural resources compiled from existing records gathered from all known archival sources.

Research objectives for the project were primarily oriented to locate and identify cultural resources and are general in focus. A research design was developed to address these questions. In terms of historical resources the major themes were considered to be transportation, settlement, and mining locations. Trails, exploration routes, homesteads, remnant mining activities, and related features were the predominant types of resources identified in this project.

1980
Greenwood and Associates: Cultural Resource Overview for the Devers Substation to Serrano Substation Transmission Route Alternatives Corridor Right-of-Way.

This project is a continuation of the Devers to Mira Loma project discussed above, and follows the same format and research objectives. The study area is located to the south of the Prado Basin.

1980
Scientific Resources Survey, Inc.: Test Excavations on Sites ORA-817, ORA-818, ORA-819, ORA-820 and Historical Resources Located on the Santa Ana Valley Irrigation Company (SAVI) Property in the Horseshoe Bend Area of the County of Orange.

The archaeological investigation of four sites in the Horseshoe Bend area of Orange County was prompted by proposed development of 288 acres.

A total of 18 historical sites and complexes was documented in this report. The proposed project is within the Rancho Santiago de Santa Ana, patented in 1810 to Jose Antonio Yorba and Juan Pablo Peralta. Approximately 33 adobes were recorded as being in the rancho. Sometime in 1864-1865 Manual Feliz, son-in-law of the Peralta family, established the first occupation of the Horseshoe Bend area. The numerous buildings and water control facilities constructed in this area (1864-1960s) testify to its continued use. Site types included adobes, corrals, historical burial, two ditches, one diversion facility, three house complexes (ca 1910, ca 1910, and 1930-1950), five trash deposits (dating from 1880s to the 1960s), one pump house, ca 1890, and two outbuildings, ca 1930s. Testing of several sites concluded that the "potential for

encountering pre-1930 deposits is relatively low" (SRS 1980:34). The lack of earlier historical materials was related to "the continual inundation of flood waters and extensive agricultural activities in the Horseshoe Bend area" (SRS 1980:34).

Several of the sites were considered significant although a formal rationale was not presented; the Pump station (H#9), for example, was considered unusual in that it represents a surviving facility of a type common in the period 1879-1910. The Feliz Adobe (H#1) and the SAVI Canal (H#5) were considered to be significant resources that would contribute to the "understanding of Orange County" (SRS 1980:19).

1980
Archaeological Planning Collaborative: Chino Hills Specific Plan.

This project includes an overview of the Chino Hills, sample site survey, and evaluation. Two historical sites, CA-SBR-2317 (Yorba-Slaughter Adobe) and CA-SBR-4033 (McDermont Ranch), were evaluated. CA-SBR-2317 was considered significant since it was already designated on the list of State Historical Landmarks. CA-SBR-4033 was not considered to be of national or state significance, but potentially of local importance. Formal research questions are not addressed in this report.

The Yorba-Slaughter Adobe is within the project area near its northwestern border. CA-SBR-4033 is located to the northwest of the Prado Basin in the Chino Hills.

1980
Environmental Resources Group: Santa Ana River and Santiago Creek: A Cultural Resources Survey.

Literature research and field surveys were conducted for several areas within the Santa Ana River basin. D'Altroy and Stickel provided a concordance of Leonard's ACE- numbers with the assigned trinomials, reviewed the sites recorded in 1975, and pointed out the potential for numerous buildings listed on records and maps of Ranchos El Rincon and Santiago de Santa Ana, as well as evidence for the Butterfield Overland Mail route (1980:25-26). They mentioned two historic buildings outside of their own study area, the Norco Store and the Palmer-Moreno House, but these were apparently not recorded or evaluated. They added to the inventory ERG/ACE-H2, a "modern trash deposit," and ERG/ACE-H2, the Desi Arnaz Ranch, at elevation of 580 ft amsl. The latter was assessed as significant in its potential for ethnic interest through its "humanistic appeal to the Latin American community" (1980:43).

1983
Theodoratus Cultural Research, Inc. (TCR): The Century of El Rincon, Historical Synthesis of the Bandini-Cota Adobe.

Authors Johnson and Buchel prepared a documentary history of the structure and families associated with the Bandini-Cota Adobe, addressing the issue of the decline of the Californios in the early American period. An adjunct study made use of remote sensing.

1983
Greenwood and Associates: The Bandini-Cota Adobe.

One of the earliest archaeological investigations of an historical resource in the Prado Basin was at the Bandini-Cota Adobe. The purpose of this test excavation was to assess the archaeological potential of the adobe, develop a research design for future efforts, and to contribute to the public understanding and appreciation of the cultural heritage through dissemination of reports.

Research questions were specifically focused on the adobe and its occupants. Comparisons with other adobes of the same and later time periods were advanced to formalize patterns of architecture and acculturation and develop various scenarios about the evolution of the structure.

1983
D.M. Van Horn: The Ramon Peralta Adobe.

Archaeological investigations at the Peralta Adobe were undertaken to evaluate the interior and exterior of the adobe and grounds in preparation for restoration. The report is not oriented to addressing specific questions of a regional or local nature.

The Peralta Adobe is located in the Anaheim Hills of the City of Anaheim. The Santa Ana River floodplain is less than 0.5 mile to the south of the adobe.

1984
Jane King, Scientific Resources Survey, Inc.: Vejar Adobe Archaeology, Walnut, California.

This adobe was tested by SRS; the objectives were strictly limited to the location of features and structural remains associated with the occupation and land use of the site. Although research questions were not formally advanced in the report, they are present in the form of statements deduced from the structural and architectural remains. The history section (J. Elliott) addresses questions of the decline of the Californio culture and the intrusion of the Anglos, the daily lifestyles of the Californio, family social organization, and socio-economic status of the family. Architectural information and building practices were described by Ben Resnick, but not compared with other adobes.

The Vejar Adobe is located within the City of Walnut in Los Angeles County, northwest of the project area.

1985
ECOS Management Criteria, Inc.: Phase II Archaeological Studies Prado Basin and the Lower Santa Ana River.

The most comprehensive study to date was conducted by Langenwalter and Brock (1985). In anticipation of modifications to existing facilities in the Prado Flood Control Basin, the CoE requested ECOS to "develop a documented body of information to be used in planning

management strategies for the conservation of resources in the project area" (Langenwalter and Brock 1985:xi).

The study included background research, survey, test excavation, and evaluations for NRHP eligibility. A total of 149 historical sites was considered in this project, of which 27 were individually evaluated. The Yorba-Slaughter Adobe was already on the NRHP prior to the Langenwalter and Brock study. Twenty-one sites were considered eligible for the NRHP and 121 others were not felt to merit nomination. The remaining sites were buried, or there were insufficient data to make recommendations.

Based on the research, survey observations, and excavations, a number of research themes were developed: social context, economics, architecture, material culture, subsistence, acculturation, ethnicity, settlement patterns, significant persons, and special use sites. Specific questions were raised on small farm adaptations, small town development, butchering patterns, material culture as it relates to status and economy, early Californio occupations, early Anglo operations, and farming.

1985
James Brock: Preliminary Investigations of the Rincon and Spillway Cemetery Sites in the Prado Basin.

The Rincon (CA-RIV-3372) and Spillway (PB-93) cemeteries were tested by proton magnetometer. The latter was not relocated, but excavation at the Rincon cemetery confirmed the presence of a human burial at each of the four anomalies tested. The purpose was to document the existence and probable population of the cemetery.

1987
Greenwood and Associates: The Aros-Serrano Adobe.

In a study undertaken for the CoE, the Aros-Serrano Adobe was excavated and evaluated for eligibility to the NRHP. The remains of adobe walls, trash pits, and room floors were investigated as well as other facilities. A pilot pollen study tested the value of this method for studies in historical archaeology.

Research orientation included architecture, subsistence, economic status, social integration, evidence of ethnicity or acculturation, and site formation (Greenwood, Foster, and Duffield 1987:87). Specific questions of architectural transition, acculturation in subsistence, cultural materials, and self-sufficiency in both subsistence and social patterns were addressed. A unique floor plan was interpreted as a transitional form of adobe architecture, and the site was evaluated as eligible for the NRHP.

1987
Greenwood and Associates: Historical and Archaeological Evaluation: Rincon Townsite and Environs.

The purpose of this study was to prepare a historical overview, inspection, and preliminary evaluation of selected historical properties within the project area, and generate a research design for a more detailed assessment of the archaeological potential of the cultural resources.

This 1987 investigation was the first to propose a model for the changes and transitions that took place in the Prado Flood Control Basin. Two patterns were utilized to establish a framework for the historical sites in the basin: Frontier Model and the Dependency Model (Greenwood, Foster, Duffield, and Elliot 1987:91). Utilizing the models to guide the research, five research domains were proposed to address specific questions relative to the project area: architecture, economy, subsistence, land use, and cultural materials (Greenwood et al. 1987:92-93).

1987
Greenwood and Associates: The McCarty Ranch: History, Architecture, and Archaeology.

A historic farm site with several standing structures was the subject of an integrated study which developed its history, tested the archaeological potential, and assessed the architectural merit of the extant buildings. The archaeological deposits did not meet the criteria of integrity and research potential for eligibility to the NRHP, but the main residence was found to be worthy of preservation or relocation as a stylistic and representative example of a rural architectural type of which few remain.

1987
Greenwood and Associates: The Rincon Townsite: Cultural Resource Investigation.

Implementing the research design developed earlier for this portion of the basin (supra), test excavations were conducted at a portion of the town site and CA-RIV-2802. Research into primary sources demonstrated the potential for identifying specific structure and activity locations. The excavations located three ceramic kilns and a roadside pottery industry behind the historic hotel/store and a stone foundation at -2802, along with other subsurface deposits at both areas, confirming their archaeological significance.

1987
Scientific Resource Surveys, Inc. (SRS): Archival Research and Remote Sensing Investigations Concerning Reported Cemeteries and Isolated Graves in the Santa Ana River Project Area.

Archival and geophysical research was conducted to evaluate certain reported burial locations. Of those within Prado Basin, the Grange Cemetery (PB-87) was assessed as eligible to the National Register; 47 anomalies were detected at the Pate Mesa location, but not tested archaeologically; no anomalies or documentation were found at the Rincon Union Congregational Church; and the Rincon/Prado cemetery (PB-90) tested by Brock (1985) was evaluated as eligible to the NRHP.

Subsequent archaeological testing at the Grange Cemetery (PB-87) and Pate Mesa (CA-SBR-1543) concluded that the magnetic anomalies do not represent burials (Lauter 1987a, 1987b).

1988
Greenwood and Associates: Yorba-Slaughter Adobe.

Historical research and test excavations were conducted at CA-SBR-2317-H to assess the archaeological significance of the Yorba-Slaughter Adobe, which is already listed on the NRHP under other criteria, and three adjacent sites which were occupied by descendants of the Slaughter family. Research questions were developed on the basis of previous work in the Basin and at other adobes in the region.

Excavations revealed foundations of early buildings or wings of the central residence and other features and deposits which suggested that subsurface remains are intact. Satellite sites CA-SBR-6024, -6025, and -6026 were found to lack significant archaeological resources.

Over the years of ever more systematic and rigorous inquiry, the inventory of historical sites has been greatly expanded, their significance recognized, and the potential of some to contain subsurface deposits of archaeological significance has been demonstrated. Overall, although historical sites known to date outnumber the Indian sites by at least 202 to 22, only a few of them have been formally recorded and assigned trinomial designations. Proportionately, more of the prehistoric sites have been tested archaeologically.

Since this document was originally prepared, several thematic studies have augmented the data base. A historical overview of the dairy industry in the Prado Basin (Swanson and Hatheway 1989a) was followed by the test excavation of the Billingsley Dairy, a small, family-operated, feed lot enterprise (Hampson et al. 1990). The Pomona-Rincon Road was evaluated in the context of the regional transportation network (Hatheway 1989a), and additional archival research (Hatheway 1989b) yielded further clues to site locations, identifications, and chronology.

Organization of the Report

As cultural context for the research design, a summary overview of Prado Basin history is presented as Chapter 2. Although many periods, groups, industries, types of sites, and other thematic topics are worthy of developing at greater length, with research implications identified for each, three general study domains and one methodological approach have been selected for expanded discussion in Chapter 3, as examples of the approach. The thematic topics are transportation, water systems, and architectural history; for each, a more detailed overview is provided, data gaps identified, and questions formulated by which the significance of representative sites can be assessed, and data recovery programs can be focused on the information needed to satisfy important research objectives. The analytical method selected for discussion is palynology, as an example of an innovative approach to recovering data

from sites which may no longer have visible remains, and answers to questions which cannot be addressed by either historical or archaeological efforts.

Chapter 4 summarizes what is known, the current status, and potential NRHP eligibility of the recorded sites in Prado Basin. Recommendations for project planning and mitigation of unavoidable effects are offered in Chapter 5.

In the preparation of this report, Anne Q. Duffield compiled data used in the overview presented as Chapter 2; Roger G. Hatheway contributed much of the detail in Chapter 3 from previously untapped primary sources; and the balance of the text was prepared by Greenwood and Foster.

2. HISTORICAL OVERVIEW

Introduction

The Santa Ana River is both the predominant topographical feature which defines the Prado Basin and the predisposing factor which has influenced the region's history. As the result of the basin's natural configuration, the waters of the Santa Ana River were impounded and accessible in the lowlands year round. Historical and archaeological evidences converge to demonstrate that human use has been focused along the bank of this river consistently through time.

To geologists, the Santa Ana River is what is known as an "antecedent stream," in common with the Los Angeles and San Gabriel Rivers in Los Angeles County. By this is meant that the stream channel predates the hills, which were slowly uplifted across its path to the Pacific and easily cut through to create such formations as Santa Ana Canyon (Sharp 1976:28).

When viewed from a higher elevation, Prado Basin now appears as a lush, vegetated wetland backed up behind Prado Dam and spillway, visible from Highway 91 near the city of Corona. In some respects the historic vista would have been similar, as the dam was built across a natural constriction of the Santa Ana River, where the waters have pooled through the centuries and life has long been abundant.

Before the completion of the Prado Dam and spillway system in 1941, the meandering flow of water was spread through Prado Basin through a series of shallow, sandy channels, which were periodically scoured of all vegetation during floods. Places where water reliably rose to the surface through the dry season, such as below the cliffs near the old town of Prado, were the most consistently exploited locations. First prehistoric peoples, then sheepherders and cattlemen, followed by stock breeders, and ultimately dairy farmers, all saw the well-watered basin lands as an ideal habitat. Pastured on the grassy hillsides, the herds came to drink at the shallows. For centuries livestock have flourished in Prado Basin.

The early farmers also quickly came to appreciate the richness of Prado Basin for agriculture, and they have left a deep imprint on the land with their irrigation ditches and canals. Later developers during the land boom of the 1880s seized on Prado's strategic location on the main transportation routes to the coast. They constructed the railroad and planned the basin's only towns, Rincon/Prado and Auburndale, along the river.

The culture region which features Prado Basin at its nucleus includes land in what are now called San Bernardino, Riverside, Orange, and Los Angeles Counties. The introduction of Euroamerican culture was the byproduct of Spanish/Mexican and Californio settlement spreading down from the San Gabriel and Pomona Valleys, up and out from the Lower Santa Ana and west from the San Bernardino Valley. Later arrivals came

from all compass directions, not initially to dwell in the basin, but always attempting to claim exclusive right to the resources.

Like the waterflow, the natural transportation corridor to and from the coast on the southwest is restricted to the space between the walls of Santa Ana Canyon. Located at its mouth, Prado Basin has functioned as a gateway for the movement of water, people, and goods between the inland valleys and the coast since prehistoric times.

Early Explorers, 1602-1771

In an attempt to ward off expansion of the English and Russian interests along the Pacific Coast, Inspector General Jose de Galvez called for the establishment of Alta California as a territory of Spain. Galvez urged the construction of a presidio (frontier fort) at Monterey (Mason 1986:4; Robinson 1984:33). In addition to the presidios, plans were made for the development of missions to serve the spiritual needs of future colonists and the native Indians. The primary colonist of the time was a soldier, usually from Sonora or Baja California (Mason 1986:6). Most of the soldiers were based at the presidios, missions, or the newly emerging pueblos.

For the first explorers, Prado Basin was a water stop and crossroads for long-distance travel between the outlying centers of Spanish and later Mexican settlement and the Pacific coast. Although the translated descriptions are vague, it appears Portola (1769), de Anza (1774), and Garces (1776) all passed through Prado Basin on their journeys (Cleland 1944:65; Brumgardt 1976:36; Black 1975:xii). Two major east-west trails met in Prado Basin, one up from Yuma on the southeast which crossed the Colorado Desert and the other from the Mojave Desert which dropped down Cajon Pass into the San Bernardino Valley and headed west. These and other historic trails generally joined at ephemeral fords of the Santa Ana River which have predictably eluded modern efforts to relocate.

Perhaps after a rest in Prado Basin, early traffic most often turned north and followed Chino Creek through Rancho San Jose in Pomona to the Mission San Gabriel, thus avoiding Santa Ana Canyon. The southwestern route assumed a greater share of the traffic after 1834 with the development of Bernardo Yorba's newly-granted Rancno San Antonio along the Lower Santa Ana River in what is now Yorba Linda, Orange County.

The journal of Juan Bautista de Anza for March 20, 1774 includes this description of the area:

> Moving forward at about eight-thirty the next morning (March 20), the Spaniards swung westward, past the site of the present-day town of Moreno, northward by the areas which are now March Air Force Base and Edgemont, descended Sycamore Canyon, and traveled on through the site of present-day Riverside to the Santa Ana River. This region, said Anza, was "a valley similar to that of" the San Jacinto Valley, "which likewise has a good

> river." In Diaz's words, it was "a most beautiful and broad valley."
>
> Because the Santa Ana, which was then a swift, flowing stream, was "at high water and much boxed in," and because a convenient ford could not be located on the afternoon of March 20, the Spaniards made camp for the night on the eastern side of the water in the vicinity of present-day Riverside.
>
> The Santa Ana River was Anza's last major physical hurdle on the trip northward... Turning once more to the north, with the snow covered San Bernardino Mountains on his right, he moved on to camp near the site of present-day Ontario. And, the following day (March 22) having traveled past the sites of Laverne, Covina, and San Dimas, he arrived at the Mission San Gabriel "just at sunset" [Brumgardt 1976:35-37].

These first travelers through Prado Basin did not linger long enough to leave much mark on the cultural landscape. Far greater impact was felt during succeeding historical periods, following the arrival of the Franciscan missionaries.

Mission Period, 1771-1835

Founded September 8, 1771, Mission San Gabriel Archangel was the first to be established in this part of southern California and the fourth in the Franciscan chain after San Diego, Monterey, and San Antonio (Caballeria 1902:34). Like the San Bernardino Valley in which an Asistencia or mission outpost was constructed by 1820 (Robinson 1958:10), Prado Basin was considered among the peripheral holdings of Mission San Gabriel. As expressed by Rev. Father Juan Caballeria:

> The missionaries not only contemplated the conversion and civilization of the Indians in the immediate vicinity of the missions, but aimed to reach out into the surrounding country and enlarge the radius of work... As soon as a mission was established, expeditions were sent out into the adjoining territory to make surveys and to ascertain the names of the different tribes, or rancherias, and the number of Indians inhabiting that section of the country. As rapidly thereafter as possible the padres founded "asistencias," or branch chapels, at locations not too far distant from the mission, making them dependencies of the different missions. Los Angeles, Puente, San Antonio de Santa Ana and San Bernardino all came within the jurisdiction of San Gabriel Mission [Caballeria 1902:37].

Probably dating from a slightly later period (ca. 1846), Figure 2.1 shows the relationship of the mission to the Prado Basin and properties between during the mission's zenith. Although the Asistencia in the San

Bernardino Valley failed and the effort was abandoned, the mission influence was strongly felt throughout the settlements shown on this map. The single structure depicted within the strict boundaries of the basin is labeled "Ranchito de B. Yorba," today known as the Bandini-Cota Adobe. Also shown are buildings labeled "Chino" and "Cucamonga," the later with its "vina" or vineyard. As recounted in 1883:

> At one time [circa 1820?] the principal ranchos belonging to San Gabriel were San Pasqual, Santa Anita, Azusa, San Francisquito, Cucamonga, San Antonio, San Bernardino, San Gorgonio, Yucaipa, Jurupa, Guapa, Rincon, Chino, San Jose, Ybarras, Puente, Mission Vieja, Serranos, Rosa Castilla, Coyotes, Jaboneria, Las Bolsas, Alamitos, and Serritos [Elliot 1965:24].

The two settlements indicated on Figure 2.1, Chino and Cucamonga, appear strategically placed along the northeastern boundary of the basin, while Yorba property dominates on the southwest. Each building represents a rancho with associated lands, and this configuration is the result of the division of San Gabriel Mission lands after the fall of the mission system in 1834.

During most of the Mission Period the Spanish Crown controlled all economic aspects of life in Alta California, with the largest mercantile centers in Los Angeles and Monterey. During the years prior to Mexican Independence, Spain practiced a closed mercantile system. The Crown required all citizens to sell agricultural produce and livestock, at set prices, to army quartermasters and to purchase scarce and overpriced supplies from the same source (Sanchez 1986:18; Mason 1986:6). This monopoly and price fixing resulted in lively contraband commerce with the British and Yankee traders. By 1785, California was producing the greater part of its own food (Mason 1986:11), although some staples and manufactured goods were still being imported.

Royal restrictions also applied to immigration and as late as 1822, the basic population was still built on the pobladores (first generation colonists) and soldiers of the original settlements. The Royal Census of 1793 recorded 1066 persons in Alta California, of whom three percent were Europeans and the rest Mexicans. By 1810 the population in the territory had increased to 2130, of whom less than 80 were Europeans. Due to the War of Independence, immigration was slowed to a trickle, and by 1821 there were only 3220 persons in Alta California (Rios-Bustamente 1986:25-28).

Mexican Independence in 1821 ended the closed economic system. The opening of trade was to have a significant impact on the developing ranchos in California. In November of 1822, the British company of Hartnell and McCulloch arrived in Monterey and established a hide and tallow monopoly with the Mexican territory under Governor Pablo Vicente de Sola and Father Mariano Payeras, prefect of the missions (Sanchez 1986:18). Monterey became a link in the hide trade with Liverpool, Rio de Janeiro, Montevideo, Santiago, and Lima. The British monopoly on the hide and tallow trade ended in 1828, due to cheaper sources and better

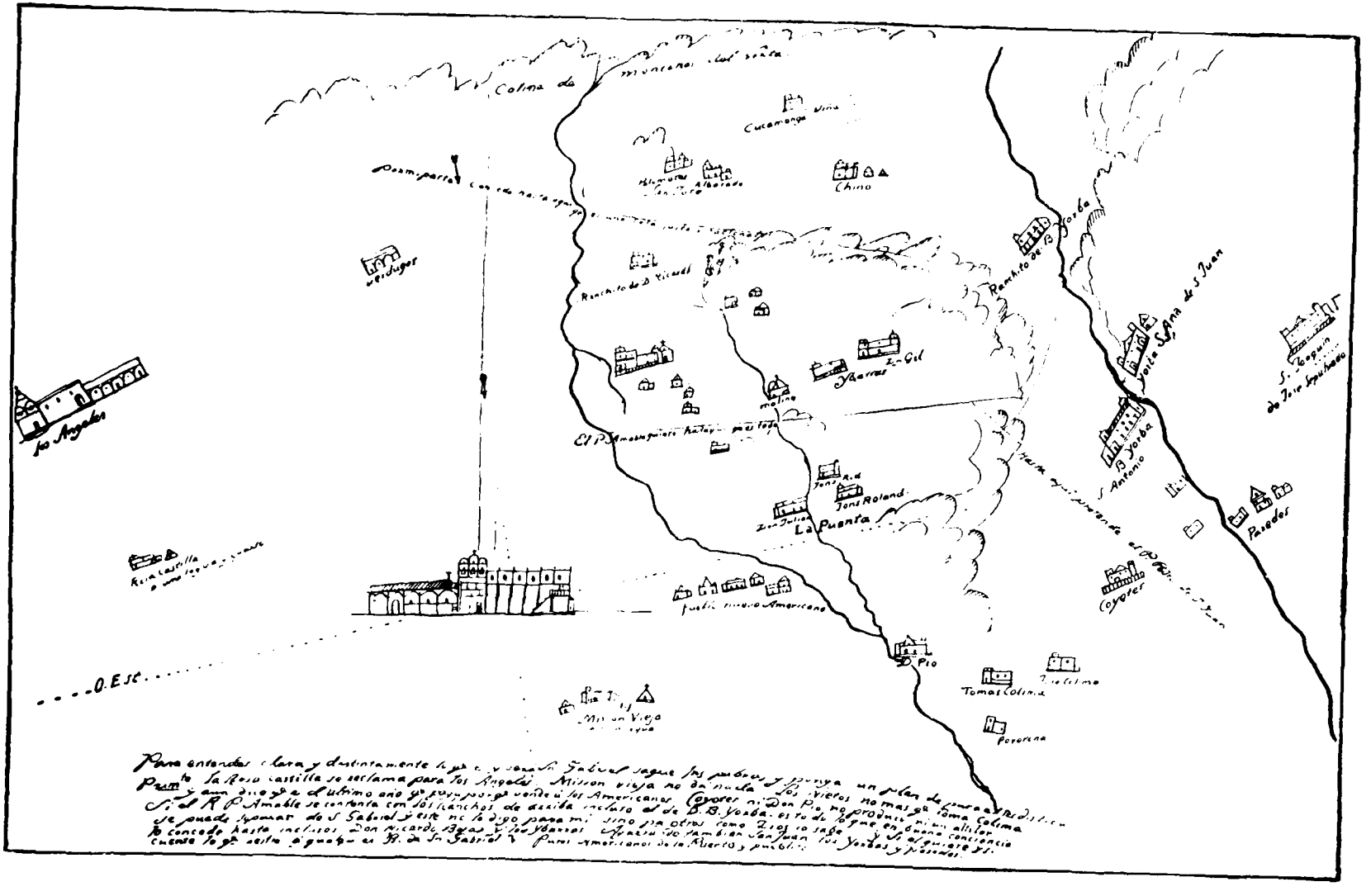


Figure 2.1. Map of Circuit of San Gabriel Mission Fathers, circa 1846 (Sleeper 1969:25).

quality found elsewhere, and was replaced by Yankees from Boston (Sanchez 1986:19).

The ranchos in the early 1820s were primarily oriented to a subsistence economy, producing only what they needed in their day to day life. The hide and tallow trade prompted the ranchos into more efficient production of these products. To augment the need for a larger labor pool, the rancheros enlisted their children, laborers from local pueblos, and the newly-converted mission Indians (Sanchez 1986:19). The only large, easily available labor pool were the Indians from the missions and rancherias (free villages), and they were quickly pressed into service to support the expansion.

The missions in Alta California, already highly organized, with vast acreage, large cattle herds, and abundant labor, were quickly successful in the hide and tallow trade. In addition they acted in concert, supplying goods and items as well as loans to each other (Sanchez 1986:19). Of primary importance was that the missions already controlled most of the coastal areas and were in close proximity to the developing settlements and therefore had easy access to ports or landings for trade.

The location of the missions along the coast was due to the system of provisioning practiced by the Crown at that time, i.e., by sea. Prior to 1785 food stuffs and other materials were shipped to Alta California ports from northwestern Mexico (Mason 1986:11). The use of sea lanes continued until the 1840s, with most of the immigrants using this method to come to California. Consequently the major settlements were along the coast.

One immediate effect of the new industry was the demand for more land for the raising of additional stock. The emerging rancheros and government officials soon realized that the only available land left was in the interior valleys, far from the ports of trade and in areas subject to Indian depredations. In addition, the recruitment of Indian labor by the ranchos was opposed by the Fransicans because the rancheros were supposedly a bad influence on the neophytes (Sanchez 1986:19). As a result of these conditions, the rancheros were unable to compete with the missions.

The benefits of the hide and tallow trade and the perceived inequality of the Franciscan competition were among the factors which led to secularization of the missions. Although couched in sympathetic concern for the Indians, the objectives of the secularization movement were to expand rancho holdings and access to Indian labor. In 1833, the mission system was finally secularized. The division of the mission holdings was accelerated with the implementation of the Hijar-Padres Project of 1834. This program allowed new settlers from Mexico into Alta California and resulted in numerous land grants (Sanchez 1986:20).

Social institutions from 1800 to 1848 were based on the family. Family members understood from infancy the respect and support obligations due to kinfolk, and any breach was considered a gross offense to the honor of the family (Rios-Bustamante 1986:29). Familial

obligations, which included fictive relationships, were to have disastrous effects on the rancheros during the American occupation in the 1850s. In contrast to American women of the time, Mexican women enjoyed legal rights, including community property, and could independently own and manage property; Americans considered women legal minors (Rios-Bustamente 1986:29).

Rancho Period, 1835-1850

The first private land grant in the region was the Rancho Canon de Santa Ana, granted to Bernardo Yorba on August 1, 1834. This was succeeded by the grant of the Jurupa Rancho to Juan Lorenzo Bandini in 1838, followed by the addition of El Rincon and the acquisition of Rancho Cucamonga by Tiburcio Tapia in 1839. Rancho Santa Ana del Chino was added to the possessions of Antonio Maria Lugo on March 26, 1841 (Robinson 1958:75-76).

As the rancheros expanded their holdings and incorporated the large Indian labor pool, the ranchos organized their herding, slaughter, hide drying, and transportation methods into efficient systems (Sanchez 1986:20-21). Integral to the hide and tallow trade was the matanza (slaughter) of the steers. During the matanza, a rodeo was held in which the cattle were rounded up and then systematically killed. Generally, steers more than three years of age were slaughtered (Gust 1982:112-114). A single steer could yield 200 pounds of dried beef, 75-100 pounds of sebo (tallow), 40-50 pounds of manteca (fat from close to the hide). The tallow was then rendered in large vats procured from Yankee whalers (Sanchez 1986:22).

Ranching during this time became quite profitable, with rancheros buying goods and supplies from American traders. The economic surplus, beyond subsistence, supported better homes and a more ostentatious lifestyle. The maximum prosperity of the ranchos was between 1831 and 1850 (Sanchez 1986:20).

During the 1830s the Mexican military presence in Alta California decreased dramatically due to low pay and infrequent provisioning. This led to the rise of a civilian militia to curtail Indian raiding. The creation and training of a militia was to have significance during the late 1840s when the Mexicans formed guerilla groups that successfully ousted and harassed American troops in every pueblo (Camarillo 1979:108).

Often underestimated is the impact of raiding Indians on the Californio ranchos. Indian raiders and Mexican/Anglo bandits were to stifle growth in the San Bernardino-Riverside regions until the late 1850s. These depredations, both in livestock and lives, rose steadily during the 1840s until the rancheros' existence was seriously threatened (Vickery 1977:14). To counter the threat of these raiders, the Lugo family in San Bernardino offered New Mexicans from Abiquiu, led by Lorenzo Trujillo, land in exchange for their protection from Indians. The Lugo family proved to be inconsistent in their dealings with the New Mexicans, prompting Trujillo to move his colonists to what was to be

called the Bandini Donation. In this locale San Salvador was established, composed of two settlements called La Placita and Agua Mansa. This colony was a focal point for Spanish people arriving from the United States and Mexico (Vickery 1977:25-31).

Early Settlement Pattern

The arrangement of settlements shown in Figure 2.1 suggests a pattern which dominated the early occupation of the area under the rancho system. The earliest dwellings for which there are records were adobes typically located on the mesas on the periphery of the basin. As a rule they were situated above the wetlands with a commanding view, as opposed to down in the basin along the banks of the river. Most rancho homes were built on open hilltops overlooking wide stretches of surrounding countryside which enabled the rancheros to check on cattle, gardens, and to spot raiding Indians (Mason 1986:17).

The construction of the first adobes in Prado Basin is attributed to the servants of Juan Lorenzo Bruno Bandini circa 1838-1839. Two structures, the Bandini-Cota Adobe and a building referred to as the Old Ranch House or "old adobe house" on the south side of the Santa Ana River, eventually became the possessions of his contemporary, the powerful Bernardo Yorba.

Accumulating evidence indicates that Bandini built at least three adobes on his combined Jurupa-Rincon Rancho. A little-known description of the first adobes built in Prado Basin is preserved in the "Field Notes of the Rancho Jurupa as Surveyed by William Minter, October 1878."

> From the post on the north side of the river Santa Ana, Station J. 22, on the Reynolds' survey of the Jurupa, L. S. 40 in the final survey of the Rancho La Sierra (Yorba), and E. R. VII on the survey of Rancho El Rincon, the ruins of an old adobe house on the point of hill south of the Santa Ana river, bears south 7 1/2 degrees east.
>
> This house is said to have been built by Juan Banilini [sic], he also built the house now occupied by Leonardo Cota, north of the river, and about two miles from this station.
>
> A third house, built by Banilini [sic], and referred to by Mr. Hopkins in his report on the boundaries of this Rancho, was situated on the north bank of the river, and about four miles above this point [Minter 1878].

Juan Bandini's name appears prominently as a builder and landowner during these post-mission years after Secularization and before the influence of Euroamerican settlers and culture.The most important individual during this period, Bernardo Yorba, also became known as a builder of adobes among many other claims to fame. His servants, or those of his son, Raimundo, built the Yorba-Slaughter Adobe on the

northern rim of Prado Basin around the year 1852, again on a natural prominence of land (Greenwood, Foster, and Duffield 1988). Possibly the Aros-Serrano Adobe had also been built in Prado Basin by 1857, when Antonio Aros was identified as an area resident (Greenwood, Foster, and Duffield 1987:5).

American interests in California were already well known by 1819 and discussed in dispatches of the British consul in Mexico (Richman 1965:297, 301). The British and the French also had plans for the incorporation of Alta California into their spheres of influence (Richman 1965:297, 301). The central government in Mexico sought at first to limit American immigration into its territories by various laws and decrees, and finally passed laws in 1845 prohibiting all further immigration into California. The Californios disregarded these laws and continued to welcome the Americans in large numbers (Castillo 1979:18). In 1848 the Spanish-speaking population was 7500 persons (Rios-Bustamante 1986:28). Although the Californios were aware of American expansionist interests, the California economy (i.e., hide and tallow) was controlled by American firms in Boston. Since the British had already given up their interests in Alta California, the Calfornios had no other option but to remain friendly to Americans. Americans were coming to California in increasing numbers, lured by the appealing narratives of ship captains and merchants who visited the territory.

The War with Mexico from 1846 to 1848 was concluded by the Treaty of Guadalupe Hidalgo which, among other things, ceded California to the United States. During the war the California economy came to a standstill with the disruption of the hide and tallow trade (Sanchez 1986:24), but the American occupation of California and statehood in 1850 when the Mexican population stood at approximately 14,150 persons (Rios-Bustamante 1986:28) were to have significant effects on the Californios.

The Anglo Period, 1850 and After

After the war was concluded, the hide and tallow trade was resumed, and the rancheros enjoyed a second economic boom when gold was discovered in 1848. Those with large herds of cattle were soon supplying beef to the burgeoning mining population in central and northern California.

As the more accessible placer gold was exhausted within three to four years of the Gold Rush, disillusioned miners of all backgrounds scattered throughout California, often squatting on Californio ranchos. Statehood and the quest for land by miners and others who came to California brought about the formation of a land commission to validate land grants and titles; 600 out of 800 were confirmed. The removal of squatters and proving of land titles was a drawn out and expensive process which bankrupted many rancheros and forced them to sell parts or all of their ranchos to their more affluent Anglo neighbors. The Mexican tradition of familial obligations also led many rancheros to co-sign loans for relatives that eventually bankrupted those that were otherwise financially stable (Sanchez 1986:24).

Indian depredations continued in the San Bernardino area in 1851; in one notable raid 200 well armed Utes, Paiutes, and other Indians swept down through the Cajon Pass and terrorized the San Bernardino Valley (Vickery 1977:47). The principal target of these marauders was the Lugo Rancho, which quickly organized a posse to recover the stolen stock. Criminal elements also preyed on the Valley with extortion and kidnapping. To combat the raiders and bandits, a company of U.S. soldiers, Company A, Second Infantry, were stationed at the Chino Rancho although they apparently never saw any action. Continued Indian uprisings instigated the placement of a company of U.S. Dragoons at the Jurupa Rancho. The Lugo family replaced their dissatisfied New Mexicans with an Indian Chief named Juan Antonio, who repeatedly pursued and captured raiders (Vickery 1977:47-57).

Prior to 1860 a combination of political events and social factors contributed to the loss of power by the rancheros and Mexican immigrants in California. Among the causes were passive political resistance, the Californio elite forming a political alliance with wealthy Anglo-Americans, the economic boom spurred by the Gold Rush, increasing Euro-american immigration, increased commercialization and subsequent loss of rancho lands, monopolization of new occupations by skilled Anglos, lawlessness, vigilantism, the collapse of the cattle industry, and the resulting depression, racial partisan politics, political harassment and ostracism by neighboring Anglo communities, and gerrymandering (Rios-Bustamante 1986:31; Camarillo 1979:110).

Perhaps the best source for information concerning the residents of Prado Basin during these Californio times, their families, occupations, places of birth, and so forth, is the Federal Population Census, first compiled for this area in 1850. This year freezes the basin in the first throes of major social change, soon after California became a state. By focusing on this single moment in history, a fixed point of reference is made to connect the various important individuals and analyze the dynamics of the time.

The 1850 Census

Nationality and Language

The Census for 1850 (Appendix A) covered a broad area, not only the Prado Basin, but portions of what is now Riverside, Pomona Valley, part of San Bernardino Valley, and into Orange County. Scanned and intentionally omitted were enumerations for the "Pueblo of Los Angeles," the San Gabriel area where that could be identified, and the City of San Bernardino.

What is analyzed here is the balance of "Los Angeles County," a much larger enumeration district than that used for the 1860 Census, which was in turn larger in area than Chino Township as defined for Census purposes in 1870, and so on. An inevitable inconsistency in the district size through the decades prevents the data from different years from being statistically comparable. Nevertheless, percentages calculated within a given year can and do demonstrate the significant

cultural trends developing within the broader culture area at that point in time. The year 1850 is of special interest in that the total regional population was small enough to allow a large block of the census to be used in its entirety.

The easiest track to follow through the Census records is genealogy, the study of families, lineage, and descent. A great deal of additional information is supplied by other categories listed on the Census. Of particular importance to this analysis are the socio-economic data derived from "Occupation" and "Net Worth," and "Place of Birth" or nationality.

The following tables represent data compiled from the Population Census taken between March 12 and July 13, 1850. The total number of individuals enumerated for this area was 735 persons. The total number of males for whom an occupation was given (whether legible or not) was 262 individuals. For this total, nationality, as determined by place of birth and/or race (Indian), was divided as follows:

Table 2.1. Males With Occupations By Birthplace in 1850

Born in California (excluding Indians)	95	(36.3%)
Born in New Mexico	37	(14.1%)
Born in other U. S. states	40	(15.3%)
Born in Mexico	53	(20.2%
Born in other countries	27	(10.3%)
Indian Laborers born in California	9	(3.4%)
Indian Laborer born in New Mexico	1	(0.4%)

These figures indicate the complexity of the intra-cultural factors at work in this part of newly Americanized California. A consideration of common language is important in predicting where lines of allegiance might form in this volatile cultural environment. The Indian laborers (10) plus those men born in Mexico (53), New Mexico (37), Chile (2), Peru (1) and, to this time, California (95) probably used a mutually-intelligible form of Spanish as the lingua franca among themselves, for a total of 198 (75.6%). English-speakers, those born in the United States (40) and those from English-speaking foreign countries (England, 7; Ireland, 12), were vastly outnumbered at 59 (22.5%). The remaining five out of 262 were presumed to be native French, German, and Portuguese speakers. Although English could be read and spoken by only a tiny fraction of the population, it was the language of commerce and government, and of socio-economic power. Those unable to learn English abruptly found themselves at a severe disadvantage.

Harris Newmark, a native German speaker who arrived in Los Angeles in 1853, described how language problems affected even the judicial system in the early 1850s.

> Juries were always a mixture of incoming pioneers and natives; the settlers understood very little Spanish, and the native Californians knew still less English; while few or none of the attorneys could speak Spanish at all. In translating testimony, if the interpreter happened to be a friend of the criminal (which he generally was), he would present the evidence in a favorable light, and much time was wasted in sifting biased translations [Newmark 1984:56].

The single significant concentration of native English-speakers around Prado Basin in 1850 was located on the north at the Rancho Santa Ana del Chino. This rancho was originally granted to Antonio Maria Lugo, who sold the property to his son-in-law, Isaac Williams, in 1842.

Williams had arrived in California from Pennsylvania some 10 years earlier with Ewing Young's trappers and had remained to prosper as a Los Angeles merchant. Williams, known as "Don Julian," married into a distinguished Californio family and became a Mexican citizen--a common ploy in the early days for access to land and society--yet he especially welcomed all the Americans who found themselves traveling in the vicinity as guests at his spacious rancho. His Californio neighbors must have eventually come to suspect his loyalties.

> When the war with Mexico started in 1846 and Commodore Sloat at Monterey and Commodore Stockton at Los Angeles issued proclamations declaring California a part of the United States and calling upon all the people to recognize the United States as their government, the Californians prepared to offer armed resistance, and indignation toward the "Yankees" ran high. Col. Williams and some thirty other Americans, knowing that an attack was imminent, barricaded themselves in the Williams hacienda. Early on the morning of September 27th about fifty Californians on horseback made a fierce onslaught, firing as they approached the house. The Americans returned fire. The horses of the Californians became frightened and in attempting to leap the ditch that surrounded the wall threw several of their riders and injured them, and one man, Carlos Bellestros, was killed. Three Americans inside the ranch house were wounded. The attacking party reached the shelter of the walls of the adobe and set fire to the roof. A shortage of ammunition further jeopardized the Americans, so they surrendered. The leaders were taken to Los Angeles and held prisoners until released in January, 1847. The Battle of Chino was a brief skirmish but it is significant as having been the first California battle of war. The battle site now has an appropriate marker [Whitney 1962:6].

The 1850 Census, three years after the Battle of Chino, showed that Williams had not forgotten his experience at the hands of his Californio neighbors. In addition to his immediate family and the community of ranch hands and skilled workers, Williams was host to a small company of the Second Infantry, commanded by Captain Christopher Lovell. The 24 soldiers (some with wives and children) lived in what was described in the Census as "U.S. Barracks -- Rancho Chino." Although all three officers were Americans, 12 of the 20 enlisted men were born in Ireland and one was from England, thus accounting for the majority of the English-speaking foreign born in the vicinity.

Considering that the Yankees were outnumbered in the region at least three to one, and that an outbreak of hostilities had occurred there in 1846, the presence of the U.S. Army at the Rancho Santa Ana del Chino must have been strongly supported by Isaac Williams. He undoubtedly realized that as the federal government of the United States became operational in California, bilingual, bicultural men such as himself stood to enjoy an immense advantage under the new order. Although Don Julian Williams died in 1864 and did not see his holdings fully developed, the rancho continued to prosper through its sale in 1881 to Richard Gird, founder of the town of Chino (Whitney 1962:7).

Fenton Mercer Slaughter, owner of the Yorba-Slaughter Adobe in Prado Basin, was another shrewd Yankee who prospered during the turmoil of the 1850s and 1860s. Slaughter's wife, Dolores, was a member of the Alvarado family, as was the wife of another prosperous, foreign-born neighbor, Cornelius Jensen. Slaughter was often called upon to act as advisor and translator for his Californio in-laws and friends, which ultimately helped launch his political career in the state legislature (Greenwood, Foster, and Duffield 1988). Other prominent owners of land in and near Prado Basin, such as Benjamin D. Wilson and Abel Stearns, also enjoyed the benefits of biculturalism through the 1860s.

Women and Indians in 1850

Although not incorporated in subsequent discussions of economic factors, the numbers of female heads of household and of local Indian families are essential to consideration of the total population. The total number of Indian men, women, and children was 27, 11 females and 16 males, with an average age for the population of 19 years. No surname was recorded for anyone listed as Indian. Distribution of house numbers suggests they lived as neighbors, in close proximity, when not sharing a house.

One additional piece of information about race is supplied for two people in House No. 468. Manuel Aquque (the spelling of the last name is uncertain) and his (presumed) wife Tomasa, both born in Mexico, are listed as "B," usually understood to mean black

Although men were culturally dominant in Californio society, seven women were listed as heads of household, without other occupation. Age and place of birth were given for each; in three cases, a net worth was supplied (Table 2.3). It seems probable the majority were widows.

Table 2.2. Males and Females Listed as Indian in 1850

Name	House Number	Age	Place of Birth
Monica	432	15	California
Olverto	434	40	California
Juan	"	14	California
Nicholas	435	3	California
Felipe	436	14	California
Maria	441	2	California
Maria Rita	"	16	California
Crespin	452	40	California
Josefa	"	16	California
Augusta	453	13	California
Marciana	454	40	California
Maria	457	40	New Mexico
Santiago	464	15	New Mexico
Jesus	466	15	California
Alejandro	467	20	California
Jacobo	494	35	California
Augustin	"	28	California
Tiburcio	"	20	California
Jose	"	17	California
Feliz	"	24	California
Luisa	497	12	California
Rafael	"	6	California
Rufino	501	16	California
Maria Antonia	502	19	California
Reducinda	"	18	California
Fernando	503	8	California
Teresa	"	6	California

Table 2.3. Women Heads of Household in 1850

Name	Age	House No.	Net Worth ($)	Birthplace
Candelaria Martina	35	445	500	New Mexico
Maria Gracia Garcia	30	472	--	California
Maria Jesus Serano [sic]	40	476	250	California
Francisca Venedes	25	482	--	California
Maria G. Ibarra	60	484	--	California
Maria Yorba	50	500	2000	California
Vicenta Lugo	25	516	--	California

Occupational Data

To focus on the economic factors which were transforming the Prado Basin area at this time, data from the 1850 Census were scanned for occupations. In this Census, occupations were usually recorded for males 16 years of age and older. There are some omissions and missing details. For example, most, but not all, of the adult male Indians were listed simply as "laborer," although both able-bodied Indian men and women labored daily in the mines, fields, and homes of the rancheros.

Nevertheless, the census does provide the most accurate picture available of the lives of economically significant individuals residing within the district. The occupations represented in the 1850 Census can be divided into four subheadings: "grazier," farmer, laborer and "other," meaning the specialized trades.

Graziers

The term "grazier" was applied to one who tended animals, and the stock might have been horses, cattle, or sheep. All three were raised in the basin from their introduction to California, and no further distinction was made in the Census. In many cases, a single rancho raised all three. From the letters of John Quincy Adams Warren written between 1846 and 1862:

> The principal occupation on the ranchos was the maintenance of their livestock, including the many horses needed for the business. Not that much was done to care for the stock, for they were permitted to run wild through the year, save when they were brought together at the annual rodeo for the branding of young stock and the slaughtering of the more mature animals. No concern was shown for stock improvement, the cattle were wild, wiry, and tough, and the wool from the sheep was so poor that it was called mere hair. There was no demand for beef, aside from that used for food on the rancho, and at the annual matanzas only the hides and the fat, which was made into tallow, were utilized. The low value of the cattle and even of the horses as late as 1847 may be seen in an invoice for five beeves sold to the United States Commissary Department for thirty dollars and one horse for fifteen dollars. The Mexican vaqueros, who might be part Indian, worked with the stock; Indian peons performed the hardest of the labor and received the least in return [Gates 1967:4].

Critical though many of the new American arrivals were of Californio stock-raising practices, the ranchero land use system had successfully supported the population for several generations and still dominated the area economically in 1850. The oldest established names and wealthiest individuals in the region were among those enumerated as graziers (Table 2.4).

Table 2.4. California Born Graziers in 1850

Name	House No.	Net Worth ($)
Palomarez, Ignacio	433	2000
Lugo, Jose Carmel	454	2000
Serano, Leonardo [sic]	467	4000
Abila, Juan	492	5000
Serano, Antonio [sic]	493	2000
Sepulveda, Jose	494	12000
Yorba, Domingo	500	--
Yorba, Antonio	501	3000
Yorba, Teodosio	502	3000
Carillo, Ramon	503	3000
Peralta, Pablo	504	5000
Yorba, Bernardo	505	20000
Yorba, Raimundo	"	--
Ontivera, Juan P.	509	3000
Lugo, Vicente	514	--

By 1850 not all the graziers were born in California, and the wealthiest among the non-natives was already a match in net worth for the most affluent Californio (Table 2.5). In this period of social readjustment, foreigners found economic opportunity accessible to them as never before.

Table 2.5. Graziers Not Born in California in 1850

Name	House No.	Net Worth ($)	Place of Birth
Williams, Isaac	427	10000	Pennsylvania
Prudhomme, Leon V.	435	1400	France
Forster, John	477	20000	England
Abila, Antonio Ignacio	492	--	Mexico
Campo, Francisco	512	1000	Mexico

Total number of graziers: 20

In this year of the Census and of social change, the causes of the fall of rancho system were already in place.

> The Mexican grants had been made for grazing ranchos when land was valued, if at all, at a few cents an acre, when cattle were worth only a few dollars a head and could only yield returns when maintained in large herds, when few were concerned about actual boundaries, when the lands were a vast public grazing area, and when records of titles or rights in land were loosely maintained. The whole situation changed overnight when California became a part of the United States, gold was discovered and a hundred thousand people suddenly descended upon California, first looking for gold and then for land. The ranchos at once acquired increased value and, notwithstanding the confused character of their titles, there was a scramble to acquire them. Questions of location, boundaries, squatters' rights in improvements, titles, and taxes, where taxes had been nonexistent, all became paramount.
>
> In Southern California the large ranchos remained undivided for the most part until the disastrous drought of 1863-1864, when Abel Stearns and others fell into financial difficulties as a result of huge cattle losses. Although many of the ranchos survived this period, and indeed were to continue intact into the twentieth century, the process of division was begun [Gates 1967:11-15].

Influenced by new range limitations and efforts to improve the breed, stock-raising techniques changed, and the traditional rancho lifestyle and associated social institutions were abandoned in stages. By the 1870s, a hybrid version of the old rancho emerged, strongly shaped by Eastern-born Americans' experience with the plantation system in the South. The first "village" in Prado Basin, the hamlet called Rincon, was established near the home of Fenton Slaughter, later to be known as the Yorba-Slaughter Adobe. This hamlet evolved from a settlement begun much like that located at Isaac Williams' rancho/plantation in nearby Chino. Slaughter's Rincon, by contrast, functioned much more in support of another growing segment of the population, the farmers.

The Farmers

Tables 2.6 through 2.9 list the 42 men described as farmers on the 1850 Census for this culture region.

Table 2.9 represents a unique, distinct population of farmers living in close proximity along the Santa Ana River. This was the community known as La Placita, the concentration of homes first built in 1845 on the Bandini Donation, part of the Jurupa Rancho in what is now Riverside County.

> The allotment of land, still known today as the Bandini Donation, was given to the New Mexicans conditionally, just as it had been agreed upon in the previous settling on the Lugo rancho [at Politana]. The

Table 2.6. Farmers Born in California, 1850

Name	House No.	Net Worth ($)
Alvarado, Ignacio	432	300
Alvarado, Juan N.	434	1500
Alvarado, Mariano	"	--
Alvarado, Isadoro	"	--
Cota, Leonardo	460	--
Bejar, Emidio	470	3000
Manriquez, Manuel	478	5000
Sepas, Jose	484	250
Rios, Silvisio	488	300
Rios, Santiago	491	2000
Yorba, Miguel	495	500
Yorba, Ramon	497	500
Peralta, Rafael	498	1000
Perez, Marcos	507	--
Botellero, Anastacio	508	--

Total: 15 (35.71%)

Table 2.7. Farmers Born in Mexico, 1850

Name	House Number	Net Worth ($)
Aquella	453	--
Bermudez	455	--
Robidoux, Louis	458	5000
Robidous, Louis F.	"	--
Arci	469	--
Parra	486	--
Guttierez	490	250

Total: 7 (16.67%)

conditions, agreed to by both Juan Bandini and the New Mexicans, were that they would establish a permanent settlement which would dissuade the Indians from attacking the region. They were also expected to join in the campaigns to recover stolen stock and to help apprehend all parties guilty of continued depredations against the rancheros of the valley [Vickery 1977:31-32].

Table 2.8. Other Farmers, 1850

Name	House No.	Net Worth ($)	Place of Birth
Christman, George	429	--	Kentucky
Slover, Isaac	451	250	Pennsylvania
Callahan, Evan	466	300	Missouri
Callahan, Edward	"	--	Missouri
Alemani, Augusto	510	--	Germany
Heath, Samuel	518	--	Mississippi

Total: 6 (14.29%)

This colony of New Mexicans evolved under the leadership of the Trujillo family into the community of San Salvador and sister village of Agua Mansa. Although both towns were nearly destroyed by the flood of January, 1862, descendants of the original New Mexican settlers still live in the area today. In 1850, all men listed with occupations and born in New Mexico were either farmers (Table 2.9) or laborers (Table 2.11).

Table 2.9. Farmers Born in New Mexico, 1850

Name	House No.	Net Worth ($)
Espinosa	437	1000
Moya	438	2000
Martinez	439	200
Moya	441	200
Capula	442	200
Ribel	443	250
Garamis	447	400
Trujillo, Manuel	448	400
Trujillo, Antonio	"	300
Garcia, Antonio	449	300
Garcia, Julian	"	--
Porida	457	200
Salazar	464	300
Sarasmiya [Jaramillo]	465	500

Total: 14 (33.33%)

According to the 1850 Census, farmers ranked below graziers in accumulated net worth, but substantially above common laborers. Although the criteria actually used during enumeration are not known, the term farmer generally refers to a man practicing agriculture for a living and in southern California, most agriculture is dependent upon irrigation.

True irrigation techniques are thought to have been introduced to southern California by the Franciscans with the construction of the first dam across the San Diego River in 1769 to serve that mission. The ditch system established early at Mission San Gabriel was famous for its length, running more than 20 miles to water extensive vineyards and orchards (Gates 1967:75-76).

Bernardo Yorba demonstrated his belief in irrigation from the beginning of his tenure at nearby Rancho Canon de Santa Ana. It was said that, "Even as Bernardo was acquiring this three-league rancho, he was building his adobe, making his home, putting a 'toma' in the river, and building ditches for irrigation water" (Stephenson 1963:22). Yorba also was among the first to sell rights to Santa Ana River water. It was he who deeded a strip of land to the German settlers of the Anaheim colony for an irrigation ditch from the river and for construction of a dam. The rights to the water in this ditch were subsequently disputed in 1877, a dry year, and the case had to be settled in the state Supreme Court (OCGS 1969:79).

Bernardo Yorba's interest in farming included viticulture, which had also been introduced by the padres. By 1825, Bernardo's Santiago Rancho had a well-established vineyard and at his death in 1858, three separate named vineyards were included in his will (TCR 1983:73). By 1850, viticulture had developed into a profitable industry in Los Angeles County. "Before 1840 Los Angeles could claim very little more than a languid interest in commercial viticulture. By the middle of the decade the production of wine and the growing and marketing of fruit had become an important element in Southern California economy" (Carosso 1951:13).

Grape-growing was a significant agricultural pursuit in the early and middle years in Prado Basin. A small number of vines of mission stock were reputedly set out by Raymundo Yorba when he built the Yorba-Slaughter Adobe in 1852. Fenton Slaughter later expanded this vineyard and began making wine at the adobe, all from local grapes grown without irrigation. Leonardo Cota's vineyard at the Bandini-Cota Adobe, however, apparently was irrigated with the rest of his fields. By 1870 he had dug at least two earthen ditches on his Rancho El Rincon property. One of these canals, leading from the north side of the Santa Ana River about three miles above the canyon, served the lowlands south of the bluff and carried about 250 miners' inches of water (TCR 1983:73). Some of the production, particularly around the town of Rincon, was dried and marketed as raisins. By 1890, viticulture had been virtually discontinued in Prado Basin, as the citrus industry and dairy farming assumed greater economic importance to the area.

A description of the Louis Rubidoux property on the Santa Ana River in 1861 illustrates one of the most prosperous farms of the time.

> This portion of the country [around Prado Basin] begins to assume a more pleasing appearance, passing over table lands and high bluffs, some of which were over 100 feet high and perpendicular in their descent, the Santa Ana River running through the valley at their feet. The day was drawing to a close as I came to a dense woodland of cottonwood, alder, willow, etc., making the ride a romantic one, and just as the sun was setting in the west, emerged into a beautiful valley, in which is located the Jurupa Rancho, owned and occupied by Don Luis Roubidoux.
>
> Jurupa Ranch contains two leagues of land, which is devoted to stock raising, with the exception of three hundred acres to vineyard and agricultural purposes...The mansion and outbuildings are built of adobe, and situated about in the center of the ranch, being six in number.
>
> His grain crop is very large and free from smut. The vineyard comprises about thirty acres, containing from fifteen to twenty thousand vines. His wine crop was near two thousand gallons, --has made about 500 gallons peach brandy, and dried 1,200 pounds of peaches. In the orchard is a large and fine assortment of bearing fruit trees.
>
> There are about two thousand head of sheep, mostly American ewes and looking in very good condition. He has also 1,000 head of cattle, half breeds, and 200 head of horses and mares, and is improving this branch by the addition of two American stallions. The country is very fertile and pasturing is of the best kind [Gates 1967:122].

The Rubidoux Ranch is an example of the pinnacle of achievement for a small-scale, diversified farming operation before the advent of agribusiness. In and around Prado Basin, large-scale fruit-growing became possible after the construction of a major water network, first begun by entrepreneurs in the Riverside area.

The history of the development of the Santa Ana River for irrigation constitutes an entire study in itself, but as with all other innovations to reach Prado Basin, the roots of the system were planted during the Californio period, and then brought to full bloom with the arrival of the Americans.

Agriculture in its strict definition was never the success down in Prado Basin itself that stockraising had been and dairy farming came to be. The most profitable farming operations in the basin into modern times were those run in conjunction with the dairy business. Many grew

green feed such as alfalfa for their animals along with a seasonal cash crop such as beans. Margo McCarty Payne described the typical Prado Basin farming pattern her family followed beginning in the late 1880s:

> My family had a lifelong partnership and ranching business, there at the [McCarty] homestead. The dairy farming business was started by my Uncle Jess. The family had been crop farmers before. In the winter we raised alfalfa and oats and in the summer the crops were black-eyed beans and corn. The alfalfa and corn were dairy feed; beans were a cash crop [Margo McCarty Payne, personal communication 1984].

The Laborers

An essential element in Prado Basin economics has always been labor, the men who tended the stock and the fields. In 1850, the term "laborer" was used as a catch-all to denote the most numerous class of unspecialized workers. The word actually used was "trabajador," as the majority who responded in this category were native Spanish, not English, speakers (Tables 2.10-2.13).

The 137 laborers outnumber farmers (42) three to one, and graziers (20) almost six to one. The native Californians, Mexicans, and Indians comprised the vast majority of the labor pool, in contrast to the statistics for tradesmen below.

Table 2.10. Laborers Born in Mexico in 1850

Corona [2]* (425)**	Cruz (427)	Moreno (431)
Breida (433)	Matteas (434)	Olivez [2] (447)
Mendoza (452)	Vega (455)	Garcia (458)
Morales (459)	Padiga (460)	Aguilar (461)
Montes (461)	Morales (462)	Aquque [3] (468)
Serana (477)	Guerrero (479)	Feliz (479)
Velasquez (480)	Parra [2] (486)	Iquerra (495)
Lopez (496)	Leiba (500)	Martin (500)
Baltazar (500)	Burnel [3] (502)	Quivas (502)
Garcia (502)	Martinez (502)	Escalan (502)
Torres (505)	Garcia (505)	Ortega (506)
Sabalete (506)	Espeleta (513)	Martinez (514)

*[number of individuals, if more than one]
**(House number)

Total number of laborers born in Mexico: 43 (31.3%)

Table 2.11. Laborers Born in New Mexico in 1850

Martinez (427)**	Valdez (436)	Moya (438)
Gallego (440)	Moya [2] (441)	Martinez (442)
Vilardo [3]* (443)	Abila (443)	Ortega (444)
Quintana (446)	Garamis [2] (447)	Trujillo (448)
Valdez (448)	Garcia (448)	Molino (450)
Espinosa (451)	Garcia (458)	Sarasmiya [2](465)

*[number of individuals, if more than one]
**(House number)

Total number of laborers born in New Mexico: 23 (16.8%)

Table 2.12. Laborers Born in California in 1850

Valdez (426)**	Alivios (430)	Alvarado [2]* (432)
Palomarez (433)	Bermudez [4] (455)	Elisalda (456)
Garcia (473)	Caneda [2] (474)	Ramirez (475)
Rodriquez (476)	Serano [2] (476)	Manriquez (478)
Oliverez (481)	Morillo (483)	Quinto (485)
Rios [3] (488)	Aquilar (490)	Guttierez (490)
Soto (490)	Uribez (491)	Limons (491)
Abila (492)	Silvas (492)	Caneda (492)
Rodriquez (496)	Oliverez (496)	Oliverez (497)
Bermudez (499)	Bustamente [3] (499)	Lopez (500)
Lisalda (500)	Silvas (500)	Aquilar (503)
Feliz (504)	Dominguez (505)	Peralta (506)
Ontivera (509)	Romero (511)	Uribez [2] (512)
Feliz (513)	Bayastero (514)	Duarte (515)

*[number of individuals, if more than one]
**(House number)

Total number of laborers born in California: 53 (38.0%)

Professionals and Skilled Tradesmen

Only a single native Californian practiced a trade in the entire culture area at this time; Yankees held nine out of the 13 skilled professions (Table 2.14). The frontier nature of the region is demonstrated by the expertise in demand, toolmakers such as millwrights and blacksmiths, and woodworkers such as sawyers and carpenters. Area residents were fortunate to have the services of two physicians and a Chilean schoolmaster.

Table 2.13. Laborers Born Elsewhere in 1850

Name	House Number	Place of Birth
Reader	427	England
Cook	"	New York
Whitney	428	New York
Christman, G.	429	Illinois
Ellige	"	Illinois
Lewis, John	"	Illinois
Lewis, William	"	Illinois
Dobson	"	No. Carolina
Aragon	452	Pennsylvania
de la Back	"	France
Martins	454	Illinois
Bevonela	466	New York
Cowg	"	Missouri
Callahan, D.	"	Missouri
Harden	"	So. Carolina
Forster, Hugh	477	England
Forster, Thomas	"	England
Garcia	487	Portugal
Macy, Oscar	517	Indiana

Total number of laborers born elsewhere: 19 (13.9%)

Total number of all laborers: 137

The lack of professionals and tradesmen in the Spanish-speaking communities is rooted in cultural and traditional patterns developed long before the Anglos arrived in California. Children of the Hispanic colonists, as a rule, rejected offers of instruction in such trades, reflecting a disdain in much of pastoral Latin America for work which was not done in the saddle; consequently, Indian neophytes became the first carpenters and blacksmiths of California, and colonial women were its storekeepers and tavern keepers (Mason 1986:11). With the arrival of the Euroamericans and increased farming and commercialization of California, the percent of professional, entrepreneurial, and white collar occupations remained traditionally low among the Spanish speaking. The roles which were filled, such as harness workers, shoemakers, saddlers, silver workers, and vaqueros, were directly related to the pastoral economy (Camarillo 1979:127) which was soon to disappear.

Land Use After 1850

Details of the 1850 Census illuminate that the central themes underlying the socio-economic development of the Prado Basin were

Table 2.14. Professionals and Tradesmen in 1850

Name	House No.	Occupation	Birthplace
Sturges, George A.	427	Physician	New York
Smith, Rupel B.	"	Carpenter	Virginia
Rowan, Arthur	"	Millwright	England
Dobson, James	"	Hatter	Kentucky
Avery, Washington H.	"	Blacksmith	New York
Williams, G. W.	"	Blacksmith	Pennsylvania
Weaver, Powel [sic]	463	Sawyer	Louisiana
Weaver, Duffy	"	Sawyer	Louisiana
Garcia, Mattias	471	Shoemaker	California
Libbey, Elliot	477	Shipmaster	Maine
Lopera, Emilio	"	Schoolmaster	Chile
Velardez, Francisco	489	Hatter	Mexico
Macy, Oben	517	Physician	No. Carolina

Total number: 13

already well established. Since California became a state, local history was molded by the dynamic tension between native and newcomer, Spanish and English speaker, landowner and laborer, tradition and innovation. Increasingly, the basin became an area controlled from the periphery, causing local settlement and transportation patterns to shift with the changing fortunes of the towns evolving to the north, south, and east.

By 1855 the rancheros were forced to cut prices on beef sold to the northern mines, to compete with the cattle being shipped from Texas and New Mexico (Vickery 1977:65). The ranches and rancheros of the San Bernardino and Riverside regions were increasingly stressed by a number of natural and cultural developments. From November 1861 it rained almost continuously until May 1862 (Sanchez 1986:25), and the resultant flooding decimated the cattle industry in the region. The rains caused a lush vegetation which sparked an increase in grazing animals. Unfortunately, the gains were wiped out by three years of drought, in which 40 percent of the cattle and other grazing animals were lost. The losses in cattle further depleted the financial resources of the ranchos. The rancheros were forced to sell additional lands to meet their increasing indebtedness. Throughout the 1860s, 1870s, and 1880s, as more land was brought into agriculture, particularly citrus and wheat, the rancheros failed to follow this trend (Sanchez 1986:25). From 1860 through 1900 the immigration of Mexicans was at an all-time low, reflecting the declining fortunes of the Mexican communities and the arrival of the low-paid Chinese and Japanese (Rios-Bustamante 1986:28).

The region witnessed increasing cultivation of citrus crops, particularly the Washington navel orange (Vickery 1977:78). The community of Riverside was at the forefront of the agricultural revolution sweeping the region. The differing land uses between agriculture and ranching continually brought these two economies into conflict. With agrarian interests on the upswing, an increasing number of laws were passed that restricted ranching interests. In 1872, the California legislature replaced the 1850 statute that farmers must fence cattle out with a law requiring the owners of the animals to fence their cattle in. What was called the No Fence Law resulted in confiscation of livestock and the levying of fines against the ranchers (Camarillo 1979:108-109, 122; Vickery 1977:80).

In the flood of 1862 the community of San Salvador was destroyed, and the once-rich bottomlands were covered with sand and the springs buried (Vickery 1977:70). The floods devastated the little communities of Agua Mansa and La Placita; San Salvador's population of 1000+ in 1860 had declined to 200 by 1870 (Camarillo 1979:122).

Through the 1870s, settlement accelerated in the Chino area to the north of Prado Basin. Farming, viticulture, and stock-raising and breeding were the dominant economic pursuits. The first concentration in the north part of the Prado Basin was the hamlet of Rincon, named for the Rancho El Rincón. Fenton Slaughter used the name in his application for a post office submitted October 9, 1870. On that form he claimed the post office would service a community of some 223 families (Greenwood, Foster, and Duffield 1988).

Nearby, on what was known as Cucamonga Creek, Robert Arborn constructed a dam and Jesse Mayhew built a mill in 1875. This was the first gristmill in the area. Sold to Charles Hidden circa 1883, the mill operated successfully for many years providing flour, corn meal, and cracked wheat, and it was an important asset to local grain farmers (Desborough n.d.:23).

To the south in Prado Basin, primarily on the north bank of the Santa Ana River, squatters attempted to settle on the land of Bernardo Yorba's daughter, Ynez Yorba de Cota, apparently as early as the 1860s. Ynez committed what remained of her inheritance to fighting this trespass and eventually was successful. When the Rancho El Rincón grant was finally confirmed to her in 1879, many of the settlers found themselves on private property and were forced to leave. Her own fortune was consumed by the fight, however, and in the end, the Cota family also lost their home, the Bandini-Cota Adobe (TCR 1983:95-96).

As they scattered, the evicted Prado Basin dwellers joined the thousands of new settlers entering southern California during the land boom of the 1880s. Many shifted north to the new town of Chino. Richard Gird had purchased the Rancho Santa Ana del Chino from Isaac Williams' heirs in 1881 and had his 23,000 acres surveyed into 10-acre tracts by 1887. Gird's new town of Chino had a one-mile square downtown, a connection via the Chino Valley Railroad to the Southern Pacific at Ontario, and a newspaper, the Chino Champion, all in that same year (Whitney 1962:11-12).

New settlers also arrived in significant numbers to the new communities forming on the southern border of Prado Basin, Rincon (later known as Prado) and South Riverside, now called Corona. The new town of Rincon, not to be confused with the hamlet of the same name near Slaughter's, was begun by the promoters of the Rincon Town and Land Company, John R. Newberry et al. The official plat map of Rincon was recorded in San Bernardino on May 10, 1887 and the Santa Fe Railroad arrived the same year, leading some to believe the town's future was bright (Greenwood et al. 1987:25, 29).

In its bid for development, Rincon had overwhelming competition. With the train came three new towns in the neighborhood, Chino, South Riverside, and Auburndale. The colony and townsite of Auburndale was surveyed and platted in October, 1887 by W. B. Jameson and associates of South Riverside. It was located on the south bank of the Santa Ana River at a point where water came to the surface near present-day Norco. Within a month, Auburndale had a hotel and a few houses along its streets, and 121 lots sold or optioned. Auburndale died almost immediately, however, when the railroad failed to materialize in town. The land was eventually reabsorbed by the growing town of Corona (Gunther 1984:33-34).

South Riverside was begun in that same eventful year, 1887, by R. B. Taylor. After solving the initial water problems, the town grew quickly, encouraged by the prosperity that accompanied the extension of the Santa Fe Railroad. By the time South Riverside changed its name to Corona on June 9, 1897 (Gunther 1984:509), it had taken the clear lead over Rincon/Prado in population and average income.

The most significant difference between Corona and Rincon/Prado or Auburndale which helps explain why only the former survived was the existence of local industry. After some early experimentation it was discovered that the dry mesas around Corona were singularly suited to citrus trees. The first citrus orchard was laid out the same year the town was platted, 1887, by Patrick Harrington. Eventually the citrus industry employed thousands in the groves and packing plants; the Exchange Lemon Products Division of Sunkist Growers was one of the largest local employers. Another significant area industry made use of large deposits of clay in the Temescal area to manufacture brick and clay pipe, as well as roofing tiles and pottery (Reynolds and Eldridge 1986:63, 77).

In Chino, too, a factory was built which sustained the town. The arrival of the American Beet Sugar Company to Chino was no stroke of luck. Richard Gird, the entrepreneur founder of Chino, planned for local industry from the town's inception.

> Richard Gird experimented with different crops to see whether he could find one which would make Chino a great industrial town. While doing this, he discovered the heavy lands south and east of Chino were suitable for sugar beets. So in February of 1889 he went to San Francisco to negotiate for a sugar refinery. In 1890,

> after more experiments had been made, he signed a ten-year contract with the Oxnard Brothers to build a sugar factory. The building was begun in the early part of 1891 and the population of Chino increased from 1200 to about 1800. At the turn of the century, this $1,000,000 plant turned out 12,000 tons of granulated sugar each season. To keep in full operation three or four months a year, 10,000 acres of sugar beets were planted annually and beets were also shipped in from other places [Whitney 1962:14].

An early resident, Sophia Lako, remembered:

> Father decided the city was no place to raise a family so we pulled up stakes and... headed for Chino, the "land where everything grows." The sugar company furnished the seed and an agricultural expert from France who told the farmers how to raise beets. Father, being totally ignorant of beet growing, did exactly as he was told and we had a wonderful crop... . Our first beet harvest was so good that Father could buy 40 acres of land (and pay one-fourth down) [Whitney 1962:43].

Although much modified through the years since their boom time beginnings, both Chino and Corona have survived to enjoy a new period of growth and prosperity. By contrast, the little town of Rincon/Prado did not evolve to fulfill its promise. Barely kept alive by the railroad, Rincon/Prado functioned mainly as a freight stop and labor pool for the larger, non-resident farmers and stock-raisers. The few residents in later years were principally Mexicans and Americans of Latino descent with Native American mix, living in rented houses (Greenwood and Foster 1987). Ironically, these families of laborers, in many ways still living much as their forebears had lived in 1850, represent the greatest continuity between historical and modern land use systems in Prado Basin. The town ceased to exist when the land was condemned and buildings removed in advance of the construction of Prado Dam circa 1939.

In one way, history seemed to repeat itself, as the dominant economic endeavor in the twentieth century was once again related to cattle, although the commodities were dairy products rather than hides or meat (Swanson and Hatheway 1989a). Some of the partitioned land grants were recombined as large corporate dairies, while families who owned or rented small parcels operated as dry feed lots (Hampson et al. 1990).

The final event shaping the history of Prado Basin was the building of Prado Dam and Spillway. Begun in 1938, this project has probably directly affected more lives than any other human endeavor undertaken in the area, and the impact continues to be felt today (Greenwood et al. 1987:70). During construction, many jobs were created and the transportation system was upgraded, especially through Santa Ana Canyon. At the same time, property was condemned, many residents were uprooted, and the town of Prado was demolished. Cultural change always involves such trade-offs, as the history of Prado Basin clearly demonstrates.

3. RESEARCH PROBLEMS

Introduction

From the historical overview presented as Chapter 2, the various surveys which have been conducted, and the test excavations reported to date, many different research domains have emerged. Some have been formulated prior to each phase of field work and addressed at the site-specific level, while each completed investigation has raised new avenues which merit exploration. For the purposes of a regional research design, questions are stated more broadly so that the data potential of a great diversity of sites may be evaluated.

Among the continuing general research directions are the following topics: chronology, subsistence, settlement pattern, social organization, economic pursuits, adaptation to a local environment, manifestations of ethnic or national backgrounds, and technical studies of cultural materials. To the extent that a given site contains the requisite data, these concerns are regularly treated at individual sites.

Other realms are more appropriately explored at the regional level, since it usually requires data from a number of sites to test the implications derived from broader patterns of history or comparative studies of several archaeological sites. Examples of such over-arching research domains include the evolution of land holdings, in this area particularly reflecting the partition of the land grant ranchos and eventual reagglutination of smaller parcels to serve the needs of agribusiness. A sub-set within this topic, itself worthy of study, pertains to both the implicit public policy and the explicit litigation which accompanied each change in land tenure. Agriculture as a major thematic approach necessarily includes stockraising, viticulture, early production of grain, introduction of citrus, and growth of dairying; each has implications for land use, water policies, organization of labor, investment of capital, and the role of ethnic or national minorities. One industry important to the region, which has been touched upon only peripherally in discussions of Rincon/Prado, is related to the extraction of clay and production of ceramic products.

Any of these broad topics, and others, could be developed at great length. However, from the great number of directly relevant themes which have influenced the patterns of Prado Basin history and which are reflected in the physical remains, four issues and one methodological approach have been chosen for expanded discussion to illustrate the application of the current body of data to the advancement of regional understanding. Not coincidentally, each topic will also demonstrate how these essential themes are interrelated and how research into any one will contribute to the understanding of all. Water resources and transportation have conditioned all aspects of life throughout the historical period and probably affected Native American occupation long before. The period least well known either archivally or archaeologically pertains to the mission era, historical Indian

rancherias, and early inter-cultural contacts. Architectural remains may only rarely be extant, yet were associated with most of the historical sites and may be interpreted archaeologically even when written documentation is scant or lacking. And palynology is a comparatively recent method with potential to contribute to studies of historical chronology, site formation, vegetation change, and construction practices; it is the most direct approach to sites which may lack either historical or archaeological evidence. For each of these topics, the historical background is presented in greater detail than in the introductory overview, and questions are formulated for future research.

Transportation

Early Travels and Trails

Portions of the Prado Basin study area may have been seen by the first non-Indians during the expedition of Juan Bautista de Anza in March of 1774. The party passed near the present location of Riverside and stopped at an Indian village on the banks of the Santa Ana River. Here, on March 20, a log bridge was created, and on the 21st, the travelers crossed the river and proceeded toward Mission San Gabriel (Rensch and Rensch 1932:122). This route was used intermittently until 1782, when it was closed due to a Yuma Indian uprising.

A second major transportation route of regional importance was first traversed by Pedro Fages in 1782. Although it was soon abandoned temporarily, it was rediscovered by Santiago Arguello in 1825, and surveyed in 1826 at the request of the Mexican government by Romualdo Pacheco, a Lieutenant of Engineers. This route, later known as the Old Emigrant Trail, branched north and west at Warner's Ranch. The Colorado Road segment, as it was later known, headed west and then northwest.

This section of the road through San Bernardino and Riverside counties to San Gabriel was called the Canyon Road by the mission fathers, who opened it up immediately after Romualdo Pacheco had reestablished the overland route by way of Warner's. It was by the latter route that Jackson traversed Riverside county on his way to San Gabriel, going by way of Temecula, Elsinore, Temescal Canyon, and Corona (Rensch and Rensch 1932:125).

David E. Jackson led a party of fur traders over this route in 1831, and they may represent the first group of Americans to pass through the study area on this route, although the mission system had undoubtedly established a more localized, if rudimentary, transportation network. In 1810, Francisco Dumetz founded a small asistencia in the San Bernardino Valley. This early building complex was destroyed in 1812, but more permanent structures were erected in 1820 in what is now Yorba Linda, and in 1828, the present site of the San Bernardino Mission Asistencia was established. In addition to these facilities, the mission controlled numerous Indian rancherias, and a system for transportation and communication would have been needed.

The Indian rancheria most closely associated with Prado Basin is Guapa. Considerable confusion exists about its exact location (Langenwalter and Brock 1985:3.10-11). While the ethnographic information is outside the scope of this report, historical data suggest that it was both a site-specific and a regional place name. The hill called by the Indians "Pachappa" was at the southeastern corner of the grant and apparently not the same. Neophytes from the rancheria of Guapa are listed in the Mission San Gabriel baptismal rolls. In 1972, Alex Kirkish and Larry Bowles tested a site believed to be this village, north of the interpretive center in Prado Basin County Park (Press Enterprise 1972; Patterson 1986). At that time called the Bovine Site and designated as 4-RIV-555 (now, -652), a limited test yielded only flaked and ground stone artifacts (Kirkish 1972). Another site recorded in the prehistoric inventory which may represent a rancheria or protohistoric occupation is CA-RIV-100. Leonard suggested that this might be the historic village of Totabit (1975:21).

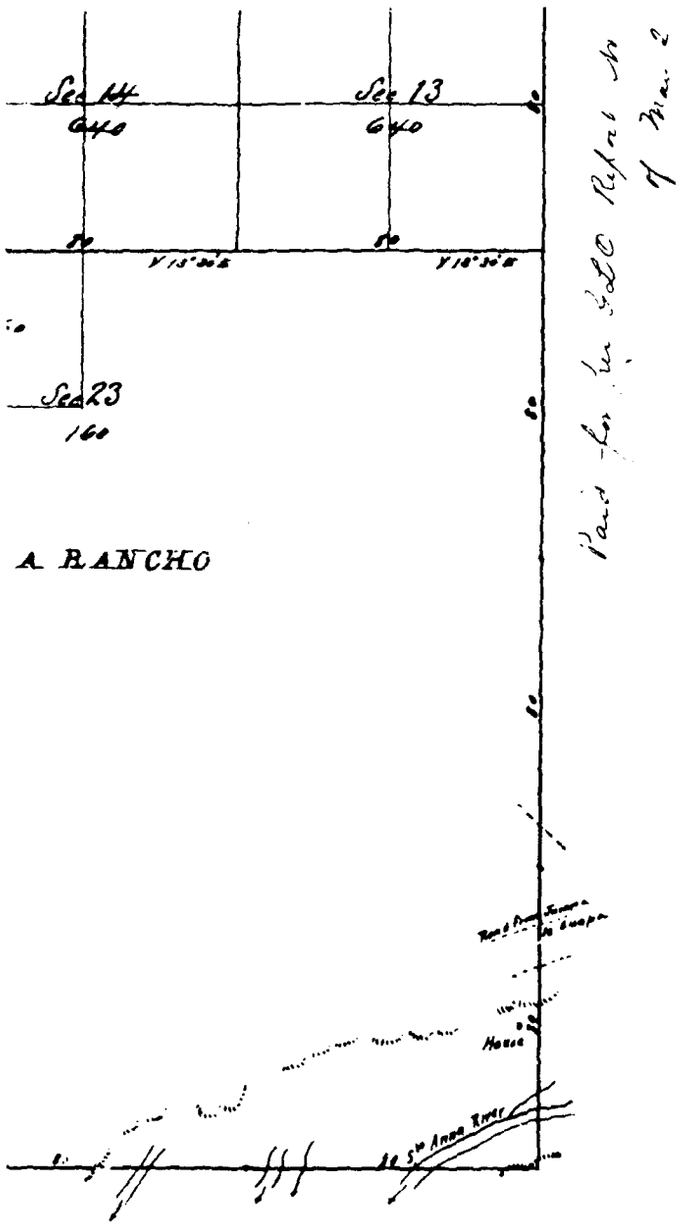
The "Road from Jurupa to Guapa" (Figure 3.1)--really a trail--travels in a general east-northeast to west-southwest direction, apparently parallel to the Santa Ana River. This early route across the Prado Basin study area probably served as the major east-west transportation artery which articulated with a more localized internal network. The "Road to Guapa" was still so labeled in 1878 on Minter's map (Langenwalter and Brock 1985:3.11).

Less is presently known about the early local transportation routes. Each of the historical ranchos would have had trails leading to house locations, sheep camps, fords, neighbors, and sources of supplies. The extent and regional impact of the early network is presently unknown.

One early road not within the defined boundary of the study area almost certainly influenced its history. The "Road from Tin Mine to San Bernardino" is depicted on the 1869 Plat Map of Rancho La Sierra. The Temescal Tin Mine was discovered in 1856, and was the subject of protracted and bitter litigation. Bars of the metal were exhibited at the Mechanics Fair in San Francisco in 1869, but it was not until 1890 that two English companies incorporated to develop the claim. The venture was short-lived, for the mine was closed in 1892 (Rensch and Rensch 1932:124), but the road itself had an effect on population growth, transportation, and economic development.

The Butterfield Overland Express

As early as 1850, California Congressman R. H. Stanton expressed the need for better post offices and post roads. At first, efforts were directed primarily to improving service to San Francisco and Sacramento, and communications in southern California remained poor. On March 3, 1857, Congress passed the Post Office Appropriations Bills which included funding for an overland mail service, a contract ultimately awarded to John Butterfield, a friend of President Buchanan. Butterfield and his associates rushed to complete their line from San Francisco to St. Louis. From St. Louis to Tipton, Missouri, the mail



The above Map of Township No 2 South Range No 7 West (San Bernardino
to the field notes of the Survey thereof on file in this Office which have been
U. S. Surveyor Generals Office
San Francisco California
April 16th 1857

Figure 3.1. Portion of Hancock's 1856 Map, T2S, R7W. Note: Road from Jurupa to Guapa, and Unidentified House Cluster.

traveled by rail, and from Tipton to San Francisco, the trip was made by horse-drawn stage.

The first westbound mail left St. Louis on September 16, 1858. The segment of interest to Prado Basin went from Warner's Ranch to Los Angeles via Temecula, Sierra Ranch, and Chino (Ormsby 1950:45). Later known as the Fort Yuma and Los Angeles Road, the route cross Rancho El Rincon, and is reported to have used the Yorba-Slaughter Adobe as a depot. The precise alignment across the entire Prado Basin is not documented, but the route in what is now San Bernardino County is shown on the 1904 map of roads in Rincon Ranch and vicinity (Figure 3.2). This segment of the stage route was adopted as a public highway in 1872.

Butterfield Overland Stage service was discontinued by vote of Congress on March 2, 1861, in favor of a more central transportation route. The choice was influenced by the growing rift between North and South, anticipation of the Civil War, and predicted problems in east-west communication over the southerly route.

Even without the stage, however, the route continued in use as a primary transportation corridor between Los Angeles and Fort Yuma, serving homesteaders, travelers, traders, and ranchers. It was apparently the first genuine "road" with remote connections to cross the project area, as opposed to the "trails" mapped by Hancock. Travelers seeing the area may have been influenced to remain and settle; most of those from the southwest listed in the Census probably arrived by this route. In turn, the greater number of travelers and settlers contributed to the founding of such small communities as the hamlet or village of Rincon near the Yorba-Slaughter Adobe, which was adjacent to the Fort Yuma Road. The exact date, composition, and location of this small enclave is not yet known, but its presence may be associated with the transportation network. In later years, portions of this road were known as the Los Angeles Road, and even today, as the Pomona-Rincon Road. Adopted in 1872, this was the first dedicated county road or other designated highway in the study area. Figure 3.2 shows that the majority of other roads dedicated from the 1870s to the 1890s tied into the Los Angeles to Fort Yuma Road.

Road Building in the 1870s and 1880s

Figure 3.2 provides the following dates for the dedication, declaration, or deeding of each road in the San Bernardino portion of the study area.

Old Fort Yuma to Los Angeles Road: February 8, 1872
Road connecting the above to Chino-Corona Road: February 17, 1876
Road from Old Fort Yuma to Los Angeles Road, later portion of McCarty Road: December 30, 1876
Chino-Corona Road: May 12, 1878
Portion of McCarty Road: October 31, 1881
Unnamed road, leading past Valley School: 1882
Old Telegraph Road (Pine Street): May 3, 1882
Pioneer Street: May 1, 1893.

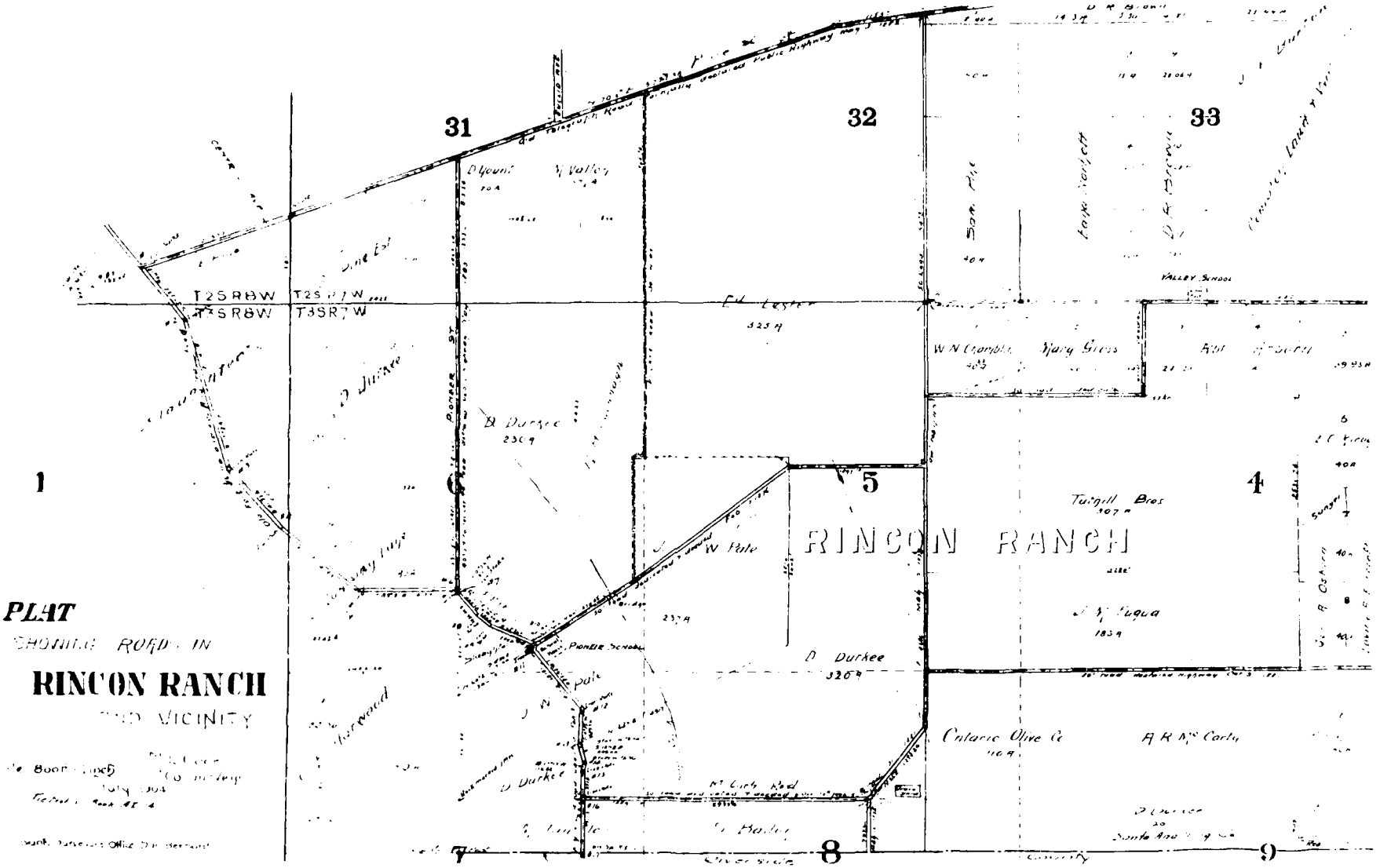


Figure 3.2. Internal Circulation System, 1904. Note: Old Fort Yuma and Los Angeles Road, Pioneer School, Valley School, "Grave Yard."

Four of the Basin roads were dedicated or adopted in the 1870s, and all of those existing at the turn of the century were, with one exception, dedicated by 1882. This implies either that rather extensive development and settlement of the area had already taken place--presumably prior to the great boom of the 1880s--or that the transportation network grew in response to the needs of more developed areas outside of the study area. Most roads were, however, petitioned for by local residents prior to their adoption, and the County Board of Supervisors considered the need and cost carefully before acting on a dedication.

Almost all of these roads were established prior to the arrival of the railroad and founding of the town of Rincon/Prado, and before the land speculation of the later 1880s.

At least four bridges within the study area supported internal circulation. Three or more of these may be historical replacements of even earlier wooden bridges or mere fords. The so-called "original" bridge of the Fort Yuma/Los Angeles Road (PB-96) across the Santa Ana River was built prior to 1890, and another span was built over Chino Creek for this road ca 1904 (PB-107). The Serrano Bridge (PB-95) was built ca 1900 to carry the Rincon-Pomona Road across Chino Creek. The growth of rail transportation led to construction of the Atchison Topeka & Santa Fe bridge over the Santa Ana River in the late 1920s (Langenwalter and Brock 1985: passim).

Rincon, the Railroad, and the Boom of the Eighties

The history of Rincon/Prado is a central concern in the Prado Basin, and its relationship to the railroad contributes to an understanding of regional development.

Without the railroad, Rincon/Prado surely would never have existed as long as it did. The railroad was its lifeblood; it brought the mail, it took the freight, it kept the town in touch with the rest of the world. On the very same day (December 23, 1886) when the land was sold for $1.00 to the Rincon Town and Land Company to start the town, 17.53 acres were deeded to the Riverside, Santa Ana & Los Angeles Railroad for the right-of-way and depot grounds. The town was planned and platted to accommodate the railroad from the beginning (Greenwood et al. 1987:29).

The Santa Ana & Los Angeles Railroad quickly became part of the Atchison Topeka & Santa Fe system. The "Kite-Shaped Track" was a figure-eight which looped along the Prado Basin study area to the south and through the Ontario and Pomona area to the north. This system was developed as part of the competition between the Southern Pacific and Santa Fe railroads in the late 1880s, and had another, more extensive impact on the future of the study area than its association with the town alone.

With one rail line located on the southern boundary of the study area and another to the north, development in the basin seems to have pulled in each direction, leaving the central area relatively

undeveloped. An immediate effect of the influence may have been the decline and demise of the hamlet of Rincon.

> During the 1870s a settlement existed known as Rincon which had the Yorba-Slaughter Adobe as its functional and geographical heart... . By all accounts it was at most a cluster of buildings on top, at the foot of, and near the hill on which the adobe stands today [Greenwood, Foster, and Duffield 1987:54].

Attributed to this cluster were a general store, operated by Goldsmith and Coleman, the blacksmith shop of Caleb Yount, and a saloon. Map research to define the transportation network has since shown that this hamlet was not located at the Yorba-Slaughter Adobe, as informants had suggested, but rather, as much as 0.5 mile to the southeast. The Goidsworthy GLO map of 1875 depicts Goldsmith's store and Yount's house in the east half of the southwest quarter of Section 16, T3S, R7W.

Regardless of its location, the little settlement probably came to an end as a direct result of the railroad, an example of how a "natural" community growth pattern is altered by a singular event. Today, the comparable example would be the economic strangulation of a small town bypassed by the construction of a new interstate highway. The hamlet of Rincon had been established in proximity to the Butterfield/Fort Yuma to Los Angeles Road, but was isolated from the money, power, growth, and technology inspired by the railroad.

Prado Dam, A New Highway, and End of the Old Road

The U.S. Army Corps of Engineers (CoE) completed Prado Dam just prior to World War II, but removal of the old road system and construction of the new portion of State Highway 71 could not be achieved until 1951 because of the war effort priorities. The relocation and improvement project included the construction of several major bridges crossing the Santa Ana River and Chino Creek and the major interchange with Freeway 91. The new highway altered forever the historical road network of the project area.

Research Questions

Aspects of the natural environment and topography had favored Prado Basin as a transportation corridor since the days of exploration. Travelers' favorable impressions of the land and water were incentives to settlement, and the Fort Yuma to Los Angeles Road provided the route for those arriving from Texas and other states. The first trails connected remote destinations, but internal circulation patterns evolved, first to serve mission facilities and later, the ranchos, clustered settlements, and the new towns. From these statements, many questions can be developed.

1. How closely do the early routes of exploration and immigration coincide with trends in settlement and development? Were the same routes subsequently used by rancheros and traders?

2. How did the mission system affect the transportation network?

3. Where was Guapa? What features of its natural environment and relationship to Indian or Euroamerican settlement led to its inclusion in the transportation network?

4. What was the internal network of the ranchos, and can it be related to travel corridors to Los Angeles and to the coast via Santa Ana Canyon?

5. How did economic or industrial development, such as the Temescal Tin Mine and clay quarries, influence growth and circulation in Prado Basin?

6. What were the economic, social, and other effects of the Butterfield Overland/Los Angeles to Fort Yuma Road?

7. Did the stage route become the primary artery from which a regional internal circulation developed?

8. Who petitioned for the roads dedicated in the 1870s and early 1880s? What population and economic purposes were served?

9. Does the new information about an early transportation network change the traditional perception that major settlement took place in response to the railroad and land boom?

10. How closely was the railroad related to the founding of Rincon/Prado? How did it affect the development of the rest of the basin, including the older hamlet of Rincon?

11. Why did Rincon/Prado, after much early speculation, decline as a railroad shipping point in favor of Corona?

Water Systems

Water systems have existed in Prado Basin almost as long as corridors of transportation. They were initiated in the mission era and continued to influence development through each subsequent period. The history of the study area is inseparable from the control and conservation of water resources, and in this aspect, mirrors much of the history of the State of California.

> Few of California's founders suspected in the beginning the power of water to gouge chasms not only between mountains but between people. Slowly they accumulated knowledge about water's uniqueness in this rugged realm; that the land, when not too wet is often too dry... . The age of the missions, having lasted some sixty years, was eclipsed by the era of ranchos and haciendas and later by the American period. Through them all, other men's written descriptions of rainfall and bountiful

> of dry seasons and crop failures, of hot days or cold, of rivers running deep or drying up, grew more voluminous and continued to accumulate [Cooper 1968:20-21].

Mission Period to Early 1860s

During the first years, the development of water resources was confined primarily to the use of natural flowing springs and drainages. Little documentation has been located beyond the insights provided in surveyors' notes.

The first true surveys of the general project area were accomplished by Henry Hancock in the 1850s. Apart from mentioning the location of several springs and mapping the course of the Santa Ana River, he left no references to developed water resources. At the site-specific level, research has provided information about the modification of drainages and digging of wells. It is reported that the Bandini family tapped the river for drinking water.

> Rock dams were constructed at various points along the river and the drinking water extracted from the resulting pools. Indian men would carry the drinking water to the house in the ollas (big round pots) and place it in what the daughter claimed was a "big, cold room." The cool dirt floor helped it maintain its freshness. From this storage room the house assistants would transfer it to "a patio olla," for household cleaning, and to pitchers for drinking [TCR 1983:36-37].

The same source described that pozas, or wells, were dug at various locations to supplement the water supply on Bandini's Jurupa Rancho (TCR 1983:37).

The lack of detail in Hancock's otherwise descriptive notes or other accounts implies that natural resources were apparently adequate at first for early domestic and ranching needs. Modifications of the natural environment were apparently limited to small dams, diversions, and wells. It is probable that such conditions persisted into the early 1860s.

Water Claims, 1870s and 1880s

By the late 1860s, increases in both population and livestock, in the project area and in the surrounding regions, triggered a need for additional development of water resources. The name of Guapa figured again in an early effort at dam-building to provide both irrigation and power. In 1875, Robert Arborn built a dam in the gully to conserve the perennial flow of the two springs, which were supposedly at the place where Cucamonga Creek entered the river bottom. Jesse Mayhew built a mill to utilize the flow thus concentrated, and the name of the stream was thus changed to Mill Creek (Patterson 1986). The pressures on this resource are clearly expressed in the claims for water rights which proliferated and conflicted throughout the 1870s and 1880s.

The Index to Water Records in San Bernardino County contains individual "Applicant" and "Location of Claim" listings. These have not been utilized in previous studies, but even cursory examination indicates that they contain a wealth of information which alters prior conceptions of the growth and development of Prado Basin. For example, the "Location of Claim" index for the Chino area contains the following listings:

Table 3.1. Early Water Claims in the Region

Location of Claim	Name	Date
Chino Creek	H. M. Hust	Oct. 31, 1871
Chino Creek	F. M. Slaughter	Oct. 31, 1871
Chino Creek	C. Yount	Apr. 16, 1877
Chino Creek	F. M. Wood	Apr. 16, 1988
Chino Creek	B. Vines	Apr. 16, 1877
Chino	J. M. Hathaway	May 11, 1877
Chino	R. W. Rives	May 11, 1877
Chino	J. Taylor	May 11, 1877
Chino	L. Sulenger (heirs)	May 11, 1877
Chino Twp.	J. Fuqua	Mar. 21, 1883
Chino Creek	A. N. Lancaster	June 21, 1888
Chino Creek	J. T. Mayhew	May 11, 1904
Rincon/Yorba/S. A. River	J. Richardson	Aug. 12, 1882
Rincon	F. Botiller	June 16, 1888
Rincon Creek	W. J. Cechin	Nov. 10, 1888

These are the only general claim locations within or directly adjacent to the study area. One caution in using the Index is that the "claim" may either be listed as a specific place or an entire region; there are, for example, many more than 100 listings for the Santa Ana River and an unknown number of them may also pertain to Prado Basin. It will take additional effort to maximize the value of the claim records, and the name index should also be checked for every known owner or resident of the area. Yet even this preliminary review provides considerable new information.

The first claim on the list was made jointly by F. M. Slaughter and H. M. Hust in 1871. They claimed the waters of Chino Creek to run in a zanja on a portion of land claimed by Hust, on a portion of Chino Rancho, and "thence over the land of F. M. Slaughter and to his fields near the adobe house built by H. M. Vale" (Misc. Records Book A:336). Slaughter's role in the history of the project area has been documented (Greenwood, Foster, and Duffield 1988), but little is known of H. M. Hust. Further, the claim provides evidence of two cultural resources which warrant investigation, the zanja and the adobe of H. M. Vale.

The second claim, that of C. Young, B. Vines, and F. M. Wood, is equally informative. The three sought certain waters from Chino Creek as "claimed by us for agricultural, irrigation, and domestic purposes: to be used upon the Ranches of the above mentioned parties" (Water Records Book A:102). They proposed to build a ditch as a method of diversion, to be three feet wide at the top and 1.5 feet wide at the bottom. Not only does the record demonstrate that the three individuals were associated in a joint enterprise, but also that they were already local residents and had established ranches in the basin prior to 1877.

The third claim, by the Sulenger heirs, J. M. Hathaway, John Taylor, and R. W. Rives, appears to incorporate a slightly larger area. They proposed to take water "from the creek that Mrs. Grant lives on, at the Bridge on it at the road running from near the School House of Chino District to San Bernardino, and the water of Chino Creek at the Big bridge on said road" (Water Records Book A:107). New information within this simple claim establishes the joint interests of the applicants and also identifies a Mrs. Grant as an early resident, and locates two bridges and a schoolhouse as landmark points of reference in 1877.

John Fuqua's claim in 1883 was also a joint enterprise, in association with William Thomas. Their claim included waters from "Fuqua Creek and sometimes called Spring Creek running past Hiddens Grist Mill into the Santa Ana River near the Yorba Ford."

Again, the document indicates economic cooperation, a joint venture to construct a ditch to channel the waters, and identifies several landmarks and place names. Some of these systems are illustrated in Figure 3.3.

Close examination of these records and integration of the new details into prior studies of census records, historical maps, and other sources are almost certain to alter a number of inferences drawn from earlier investigations. For example, Ben Fuqua has been credited with building the Fuqua ditch in the 1880s, in association with his house and ranch designated as PB-46 (Langenwalter and Brock 1985:8.73). The water records suggest instead, that the ditch was built in the 1870s by John Fuqua and William Thomas. The same document refers to Hiddens Grist Mill, which may be either antecedent or a successor to that previously identified as the Mayhew Mill. And finally, that a creek bore their name confirms that the Fuqua family had been in the area prior to the date of application; Isham, father of Ben and John, was one of the earliest Euroamerican settlers.

This scanning of water records is intended to suggest not only the wealth of detail contained about the development of this vital resource, but how one avenue of supposedly focused investigation can contribute as well to definition of place names, settlement, bridges, structures, and interaction through cooperative enterprise.

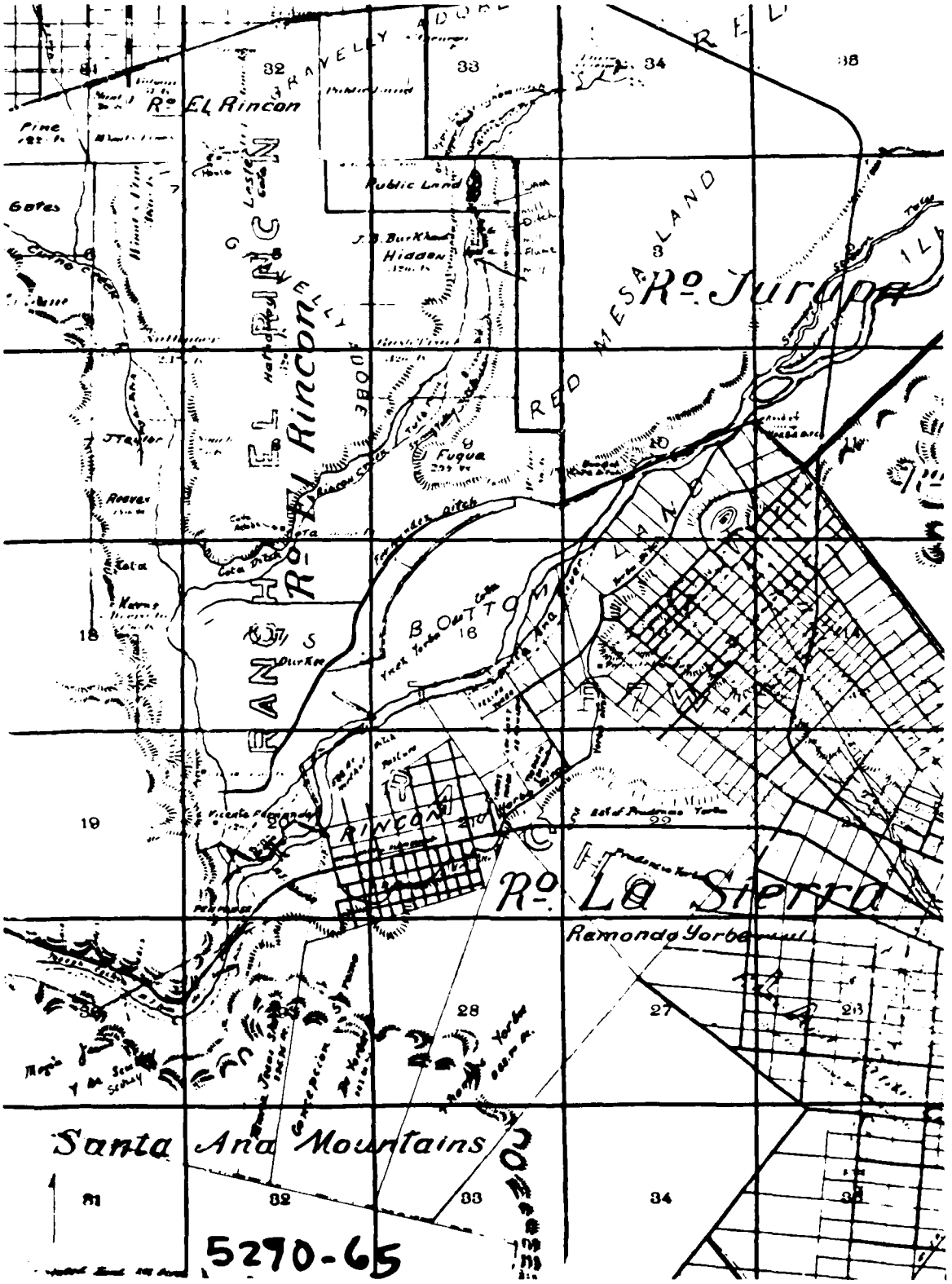


Figure 3.3. Irrigation Map, 1888. (Courtesy, Tom Patterson collection.)

Late Nineteenth Century

Documentation is more readily available for the final decades of the nineteenth century. The volume of claims and inevitable conflicts instigated a study by the State of California Department of Engineering.

The first definitive study of water use and facilities was completed in 1888. An irrigation map drawn in 1888 depicts various ditches in use or previously used in the vicinity of the town of Rincon. Among the familiar names in local history who dug and maintained such waterworks were the Yorbas, the Cotas, the Serranos, and Daniel Durkee. The Durkee ditch was noteworthy in that it was some five miles in length and later became the basis for the claim to Santa Ana River water by two Orange County water companies (Greenwood et al. 1987:63).

The irrigation map of 1888 (Figure 3.3) covers all of Rancho El Rincon and portions of both Jurupa and La Sierra Ranchos, providing the names of individuals, places, and features. The full text of the report has not been examined, and the extent of the geographical coverage is unknown, yet the fact that the State prepared such a document emphasizes the importance of local water resources in the 1880s. It is likely that regional growth prompted the study. The sheer volume of claims along the Santa Ana River and other major drainages had grown to flood proportions, making clear to legislators and county planners alike the importance of establishing legal rights and regional control.

The Twentieth Century

From individual claims along tributary creeks, water rights issues became a matter for tri-county planning. Efforts to control the Santa Ana River began with the formation of the Water Conservation Association in 1909, involving representatives from San Bernardino, Riverside, and Orange counties. With some federal government assistance, the Association built numerous dikes and ditches to control flooding. The Orange County connection had begun in the basin when the Santa Ana Irrigation and Anaheim Union Water companies purchased the Durkee Ranch in 1899. By the 1920s, Orange County controlled the majority of the river frontage and riparian rights in the vicinity of Prado (Greenwood et al. 1987:71).

It became apparent to the Orange County Supervisors that greater efforts were needed, and they commissioned their own study in 1925. The Lippencott Report concluded that the most effective means of flood control would be a large storage reservoir at the upper end of Santa Ana Canyon; this and several other reports investigated the feasibility of various improvements in the region (Greenwood et al. 1987:67). After delays due to the Depression of the early 1930s and much litigation over both land and water, but finally initiated by New Deal legislation and another disastrous flood in 1938, the Prado Dam was built.

At the time of its completion in 1941, the earthen and rock-filled Prado Dam was unprecedented in the annals of hydraulic engineering in southern California. During more than 20 years of cooperative effort from project inception to completion, a county agency (Orange) purchased

more than 4500 acres in neighboring counties, removed a town, a railroad, and a highway, and conducted a series of engineering studies which led to the actual construction by the CoE (Greenwood et al. 1987:71).

The dam is 106 feet high and 2230 feet long, impounding a 198,0000 acre-foot reservoir. Its cost in 1941 was $9.5 million. As of 1975, this investment had prevented about $446 million in flood damages, but it was already acknowledged that urbanization both upstream and downstream and new knowledge about basin hydrology had created a need to develop remedial measures so that Prado Dam could control a major flood (VTN 1975:111-112). Details of its history, construction, and significance are provided by Swanson and Hatheway (1989).

Research Questions

The evolution of water rights issues evolved from very localized, individual efforts to divert free-flowing streams to irrigate the rancho fields and orchards and supply households, to a period of joint ventures for the construction of longer ditches, to the tri-county endeavors to manage water over a much more extensive region, for the primary purpose of flood control. Whereas the early claims for water were related to growing population and the support of local economic pursuits, the culminating event, flood control, actually removed the local population and served economic interests far removed from the Prado Basin. The same water resources which were an early incentive to settlement and development ultimately led to virtual abandonment of the land other than for recreation, agriculture, or management purposes. Many questions warrant further investigation.

1. Which natural springs and drainages were utilized by the ranchos? What early place names can be identified?

2. Were early residences associated with these water sources?

3. Who were the early applicants for water rights, what was the intended use of the water, were the claimants old or new residents, and to what degree did water rights affect the location of settlement?

4. What was the nature, capitalization, and labor force of the joint ventures to build ditches?

5. To what degree were the claims and water developments related to natural cycles of drought and flood?

6. How were the facilities described in 1888 related to contemporary settlement patterns and the prevailing economy?

7. To what extent were the nineteenth century water systems in Prado Basin articulated with those of a broader region?

8. What labor force, construction facilities, and supply system contributed to the building of Prado Dam?

Recent research, completed after this report was submitted, has addressed aspects of water development at three different periods: the early claims and survey observations (Hatheway 1989b), the history of the Cajon Canal representing events of the mid- and late-nineteenth century (Hatheway and Zimmerman 1989), and the natural and political forces which culminated in the Prado Dam (Swanson and Hatheway 1989). These studies demonstrated that the questions posed above can be addressed by reference to archival and physical evidence; that historical remains of older facilities can be relocated and may still survive; and that--as predicted--identification of early developments related to water will expand the inventory of archaeological sites and contribute to the interpretation of settlement patterns for both individuals and communities.

Guapa, The First Historical Site?

Introduction

The location of Guapa has been the subject of considerable speculation. Langenwalter and Brock (1985:3.10-12) accurately observed that "the origin of the word Guapa and what it encompassed are confused in the literature." One historian, Bernice Johnston, placed it within the present town of Chino (1962:140), while a local historian, Tom Patterson, identified it as an Indian village near springs located close to the intersection of Hellman Avenue and the Chino-Corona Road.

Patterson's location puts Guapa within the boundaries of the Prado Basin study area, while Johnston's would be outside of it. Langenwalter and Brock concluded (based on Minto's 1878 survey map) that Guapa is east of the study area, "and thus Guapa cannot have been on the Rancho del Chino, nor at the springs at Mill Creek." They concluded that "only the lands encompassed by the Guapa Rancho extend into the project area. The use of these for anything beside possible cattle grazing, was not documented" (1985:3.11).

Increments of data compiled as part of the CoE studies of sites and themes represented in the Prado Basin have established the potential significance of Guapa and questioned the placement of it as being entirely outside the Flood Control Basin. Any evidence of its location and function is directly relevant to the history of the Prado Basin study area and to the management of its cultural resources. In brief, Guapa is (apart from exploration expeditions) the first known location of non-Indian cultural activity within the general vicinity. Its presence is known as early as 1821, and if it (or any part of it) falls within the boundaries of the Prado Basin study area, it would provide all related studies with a critical and heretofore undefined point of beginning. It would not only extend the historical and archaeological record further back in time, but would contribute to the understanding and interpretation of subsequent development events. The clues and references to Guapa go back to 1821.

By 1822, the San Bernardino "Asistencia" (first a rancho) had been established as an outpost of the San Gabriel Mission. At this time, the

main route from San Gabriel to the asistencia is thought to have led via Guapa, and not by way of the much more direct, later route south of Cucamonga. The actual asistencia was not truly established until the 1830s, but a mission outpost or cattle rancho had already been established by this time (Hatheway 1989a). The most accurate account of the relationship between the rancho/asistencia, Guapa, and San Gabriel, is contained in the diary prepared by Father Sanchez describing a trip he and Father Payeras, of San Diego, made throughout the San Bernardino Valley in 1821. On October 1, 1821, the two men set out from Guachama, near the present location of the asistencia, en route to San Gabriel. Sanchez wrote:

> About four in the morning we set out toward the west by the road that leads to San Gabriel. About seven in the morning we arrived at Jubuval on the bank of the Santa Ana. Continuing our journey we reached Guapia (a cattle ranch for San Gabriel in the Santa Ana River bottoms southwest of Riverside) about nine-thirty. We ate and at four in the afternoon we started to Ajuenga which we reached at nightfall. Then we proceeded to San Gabriel where we arrived about eight o'clock in the evening, having traveled about twenty-one leagues from San Bernardino [Beattie 1923:17].

Guapa undoubtedly existed as an early historic and mission-associated site. It was an important or at least notable landmark/stopping place on the road from Guachama to San Gabriel, and Beattie places it somewhere along the banks of the Santa Ana River southwest of Riverside. As noted earlier, the issue of what or where Guapa was has been of considerable interest to historians of the Chino Valley/Riverside area. The most recent reports prepared for the CoE have taken a more in-depth look at various primary archival sources of information. For example, Hancock's survey field notes clearly refer to this as both a place (Hill of Guapa) and a general area (Guapa Rancho), supposedly on the lands claimed by Bandini as Rancho Jurupa. This is confused somewhat, however, by the previously noted reference to "The Road from Jurupa to Guapa" (Figure 3.1). The Hancock survey map, prepared in 1856, illustrated the location of the Jurupa to Guapa Road near the southwest corner of Rancho Jurupa, and its direction to the southwest. This would imply that Guapa is located to the southwest of the noted location of the road, at a point within or directly adjacent to the project area (Hatheway 1989b).

An additional site designation has been added to the inventory pertaining to the potential location of Guapa.

> NEW PB-151, 152. Cline Homestead, Aguada Guapas, Aguajes Guapas, Springs of Gaspar, House
>
> These two sites, Clines House and a House, are associated with the generic site name of Aguada Guapas, etc. Some information regarding Cline, such as a homestead date and improvement value, are known. This general area has also been referenced as the Aguajes (Aguades) of either Guapas

> or Gaspar. It was later referenced as the Springs of Gaspar. The association with Guapa (NEW PB-148) is unknown at present, but Guapa must certainly have been in the general vicinity. The location of the Aguada Guapas, as referred to by Minto (after Hancock) may actually be nearer the intersection of the San Bernardino County lines as they border Section 27 and 28 T2S R7W SBM. Regardless, the association with Aguajes Gaspar and Clines House is quite clear. This site (PB-151), therefore, does have the potential to yield significant information regarding early homesteading (perhaps landsquatting) within the Prado Basin study area [Hatheway 1989b].

The reference to the "Aguajes Guapas" is of particular significance as it may eventually lead to a more focused use of additional research documents, and to the ultimate establishment of the difference between the place(s) and the area known as Guapa. The significance of the location is further documented in the recent study of transportation networks:

> Two transportation related features do, however, stand out in relative importance. The first of these is Guapa, the Indian rancheria along the route from Mission San Gabriel to Guachama. Its location is unknown at present, but it is suggested that if future studies determine a location then the site may qualify as eligible for the National Register [Hatheway 1989a].

In review, Guapa would appear to have the unique distinction of being a cultural resource potentially eligible for the National Register for which no actual location is known. Brock and Langenwalter placed it outside of the study area, other than possibly the Guapa Rancho grazing lands. Other (local) historians either place it within or far outside of the study area. The sequence of reports prepared for the CoE have contributed additional information about the importance of Guapa, provided some more site-specific information about it, and established it to be of unquestionable historic significance. But an actual location has not been determined.

Refinement of the location has been the objective of recent focused research utilizing primary sources of information. The effort has been productive, and it is almost certain that by following the leads developed from the new data, and consulting other and even more obscure sources, it will be possible to define what and where Guapa was.

New Archival Information

It should be noted that much information useful to the better identification of a location for Guapa existed in previous CoE reports, but the references were scattered in studies which had another focus. However, key data required to use this information had not been compiled, and recognition of the implications for Guapa of facts already gathered only grew gradually.

The primary bits of information were contained in San Bernardino County Assessors records. The volumes for the period extending from 1854 to 1895 are incomplete, although intermittent years are available throughout this time span. One of the most useful volumes, for the years 1873-1874, is located in the collection of the City of San Bernardino public library in the California History Room. This volume first lists the names of the individual being taxed, and then notes their place of residence. Additional notes are made on land owned or claimed, and on improvements made to the property. This volume lists a large number of individuals as living at "Juapa." This is a place name similar to that of "Rincon" or "Jurupa," both of which are also referenced numerous times. The "Juapa" listings (with improvement values in parentheses) are:

John Ashcroft:	Possessory claim on Juapa Ranch	($100)
Thomas Ashcroft:	(No information)	
W. E. Beckstead:	Improvements on Juapa Ranch	($50)
James Castile:	Possessory claim on Juapa Ranch	($25)
John Gregory:	Improvements on Juapa Ranch	($75)
George Huden:	Claim on Juapa known as Huden Place	($25)
Wm. Hendricks:	Improvements on Juapa Ranch	($50)
David Hickey:	Land claim in Juapa Ranch	($40)
Simon Kelting:	35 acres in Juapa Ranch	($150)
M. M. Onstott:	Land claim in Juapa Ranch	($20)
Heber C. Parks:	(No information)	
Mrs. S. J. Rogers:	150 common sheep	
John Roberts:	Possessory claim on Juapa Ranch	($100)
Alex St. Mary:	Possessory claim on land on south side of Santa Ana River opposite the Juapa Ranch	
Eddy Winslow:	(No information)	
J. B. Wilson:	Possessory claim on Juapa Ranch	

The spelling of Juapa is sufficiently close to that of Guapa to warrant additional investigation. The next step was to consult the Possessory Claims index, and the Homestead and Land Patent indexes for the names referenced above. Unfortunately, the research ran into an unforseen roadblock here. In short, virtually none of the individuals listed as having made possessory claims or land claims appear to have actually done so by 1873-1874. Alex St. Mary did file a claim, but it was defined by traditional metes and bounds, and it provided no genuine locational information apart from the fact that it was indeed on the south side of the Santa Ana River and opposite Juapa.

This was surprising as all that was really required to establish a better idea of the boundaries of Juapa (in all probability Guapa) were several possessory claims filed by Section, Range, and Township. The names themselves were familiar, however, and reference to Greenwood et al. (1987) clarified the lack of possessory or land claim information.

The history of the Rincon townsite and environs contains a discussion of land squatters on the north bank of the Santa Ana River, and the manner in which they were evicted by Ynez Cota in 1879. A list

of known squatters and a map of their habitations is provided. Included in this discussion are several historical accounts of the squatters and their lifestyle, and a contemporary description of the area as abandoned in 1883 (Greenwood et al. 1987:20-23).

The names of the squatters and the map showing the location of the lands they occupied are of primary interest. These names do, in fact, appear to match several of those listed in the 1873-1874 tax assessors' records. The spellings of first or last names do not coincide exactly in all instances, but they are close enough to imply that the squatters noted were on lands then known as Juapa Ranch. The names which appear to match are:

Assessors Record	Squatters Index
Tom Ashcroft	Tom Ashcroft
James Castile	Frank & Joshua Casteel
John Gregory	John Gregory
M. M. Onstott	Onstott

Several others including John Roberts (Squatters Index: George and Wm. Roberds) may actually be the same name, but this cannot be determined without further research.

Regardless, it is clear that the squatters were "claiming" and living on land generally known as Juapa Ranch. The squatters' lands, as discussed in the 1987 report, are clearly within the Prado Basin study area. This is of primary significance for it connects Juapa with an important and previously established developmental period in the history of the Prado Basin. Juapa Ranch, therefore, becomes of considerably more interest to an understanding of the history of the Prado Basin than previously thought for it would appear to be related to land grants, the Cota family, legal entanglements and land disputes, numerous individuals of historical interest, and to an entire phase of early American settlement and development.

Clearly, several unresolved issues remain. The most obvious is the spelling of Juapa Ranch as Juapa rather than Guapa. This would seem to have a simple phonetic explanation, and, in truth, this is very likely the best explanation. But the lengthy confusion regarding the location of "Guapa" requires that this concern be addressed. The second issue involves better definition of Guapa as a place and as an area. Not surprisingly, the answers to these two concerns are related.

The area of land associated with the "land squatters" is actually quite large. Brown's Squatters Map (Greenwood et al. 1987:Figure 2.3) shows the squatters occupying land extending along the north bank of the Santa Ana River from well within the boundary of Rancho El Rincón to at least several miles east of Hamner Boulevard. Juapa Rancho, therefore, must have been regarded as quite a large area. It is likely that additional possessory claims research will better define these boundaries, but some preliminary conclusions can be drawn. First, Sparks's claim is shown on the Brown Squatters Map. Recent research shows that Sparks's claim was actually referenced as a part of "Rincon"

by the San Bernardino County Assessor in 1873-1874 (Hatheway 1989b). The assessor did, however, note that the John Gregory claim (depicted as Site #14 on the Brown Squatters Map) was in Juapa Rancho. It also describes the #1 and #2 Casteel claims (John Castille according to the County Assessor) as being in Juapa Rancho. A "Haydons" claim is also shown on the Brown Map. This is possibly the Huden claim referenced by the County Assessor in 1873-1874, indicating that Juapa Ranch was likely perceived as extending as far north as the southeast corner of Rancho del Chino.

In summary, an approximation of the boundaries of Juapa Ranch, as defined by the Brown Squatters' Map and the 1873-1874 Assessors Records, is as follows:

(1) The southern boundary was the Santa Ana River.

(2) The northern boundary was probably as far north as the southeast corner of Rancho del Chino.

(3) The western boundary was probably not as far west as that of Sparks's claim, but certainly extended as far west as the later Fuller Ranch (immediately to the north of the John Gregory claim).

(4) The eastern boundary extended at least a mile or so to the east of Hamner Avenue.

Additional research undoubtedly will better define these boundaries, but they would appear to be sufficient for present purposes. In brief, these boundaries appear to coincide rather well with what is known of the boundaries and places that have been identified as Guapa.

As noted earlier, Guapa is referenced in 1821 as being a place located on the road from Guachama to San Gabriel. Previous research has also indicated that Guapa was located to the southwest of Riverside.

PB-148 Guapa

> Guapa is most likely both a site-specific location (a hill) and a name for a region. The location of the "hill of Guapa" can only be speculated upon at present. Interestingly, however, the 1856 Hancock survey map of T2S R7W SBM notes the location of a "Road from Jurupa to Guapa." This road is depicted near the extreme southwestern end of Rancho Jurupa, and leading to the southwest. This would seem to imply that Guapa was located to the southwest of the depicted location, and within the boundaries of the Prado Basin study area. The location of Guapa is, however, complicated by references to "Aguada Guapa" (PB-151, 152) and by the fact that no convenient "hills" appear to be located in the immediate vicinity of the road referred to [Hatheway 1989b].

Additional reference to various surveyors' field notes, in light of the newly-acquired information regarding Juapa, has led to a much better understanding of where and what Guapa itself was. The field notes consulted focused on the area of land determined to be Juapa.

The eastern boundary of Guapa, and its general size in relation to rancho boundaries, is suggested by final remarks made by Henry Hancock, in his Final Survey of the Rancho Jurupa, Louis Rubideau [Rubidoux], Confirmee, in September of 1858. He stated:

> This tract of land [the Rubidoux portion of Rancho Jurupa] is bounded on the east by the Rancho called "Sobrente de San Jacinto" and on all other sides by the original grant of Jurupa, from which it was taken, the southwest corner being the boundary of the Rancho, called Guapa, or La Sierra [Hancock 1858].

The eastern boundary of Guapa may, therefore, be generally accepted as the southwest corner of the Rubidoux portion of Jurupa. Guapa appears to have extended as far south as Rancho La Sierra. It could be argued that Hancock's use of language is ambiguous here, and that Guapa is actually located in the southwest corner of the original Rancho Jurupa grant which surrounds the Rubidoux grant. This possibility becomes less tenable upon consultation of earlier Hancock notes (see below). The truly significant information contained in this 1858 reference is that Guapa and La Sierra are the same, and that Guapa may extend as far east as the southwest corner of the Rubidoux grant.

In 1853, Hancock had conducted a survey of the Standard Parallel between Townships 4 and 5 South of the San Bernardino Base and West of the San Bernardino Meridian. Two critically important references to Guapa are included in his field notes. The first is made at the "34th mile," where he notes (from a fixed location) a "bearing to Building[s?] at Guapa N 38 1/2' W." The second is at the "40th Mile," where he recorded the "hill of Guapa N 38 1/2' E."

These notations indicate that Guapa had several fixed locational points of reference (the hill, and one or more buildings at Guapa). The measured survey points are only six miles apart, and yet one is 38 1/2' west while the other is 38 1/2' east. The angles require that these two points be quite far apart, keeping in mind that Hancock was then at the parallel between Townships 3 and 4 South, having had to move his reference point northward an entire section to avoid an impassable mountain area. His move north (to avoid the mountains) also provides some additional information about Guapa. In his concluding remarks for this survey he noted "In offsetting to the north, in order to pass the Santa Ana Mountain, the line across a portion of the Guapa Rancho, claimed by Don Juan Bandini" (Hancock 1853).

In summary, the 1853 Hancock survey notes contain a wealth of new information regarding both what and where Guapa was. When plotted out on a more recent USGS map, a rough idea of the direction of the lines of sight taken by Hancock can be obtained. The first measurement (hill of Guapa) would appear to be located in the vicinity of the later Jurupa

Rubidoux Ranch. The actual hill is somewhat in question, but it is either the "Small Conical Hill" depicted near the southwest corner of this ranch, or the larger hill located directly in the south central portion of the Rubidoux Ranch. The second sighting on the "Building[s?] at Guapa" would appear to cross the Santa Ana River at a point approximately three miles east of the present intersection of Hamner Boulevard and the river. Finally, he noted that the parallel between Townships 3 and 4 south, which he traveled westward in offsetting to the north, crosses a portion of Guapa Rancho. This area of land is clearly to the south of the Santa Ana River, and within a portion of Rancho La Sierra.

The boundaries of Guapa would appear to be much better defined by the new research. As an area, Guapa probably extended as far north and east as the Rubidoux Jurupa Rancho. It would also appear to have been located on both sides of the Santa Ana River, extending as far south as the southern boundary of Rancho La Sierra. In addition, the Hill of Guapa and Building[s?] at Guapa are also noted. These are in distinctly different and quite widely placed locations, indicating that Guapa was large enough to have its own separate regional landmarks or areas of activity. Some idea of the final, or eastern, boundary of Guapa can be gathered from an examination of an additional set of field notes.

The most important reference regarding the eastern boundary of Guapa is contained in the field notes of William P. Reynolds describing his 1869 survey of Rancho Jurupa.

> To post in mound E.R X station 39 of Rancho El Rincón and established the same as station 25 of Rancho "Jurupa." From this point I locate the three cienezas (taken by Henry Hancock in the former survey made by him while a Deputy U.S. Survey as the "Aguade Guapas," in running township lines) as follows North 28' east and 45.87 chains across a stream of pure water 20 links wide and 2 feet deep course north 85' west which rises in the three cienezas above mentioned [Reynolds 1869:400].

These "Three Cienegas" (a later typist misread the original handwritten notes) are shown on the Plat of the Jurupa Rancho, as prepared by Reynolds in June and July of 1869. They are located approximately 0.5 mile southeast of the Aguajes de Gaspar. This places them within or immediately adjacent to the study area, near (actually slightly northeast) the intersection of Hellman Avenue and the Chino-Corona Road. It should be acknowledged that this is the same location for Guapa identified by Patterson.

The rather precise identification of this location would appear to provide the easternmost (and final) boundary of Guapa as it was recognized locally during the period from the 1850s to the late 1860s. This boundary mark is of further significance as it is also a place name, and not merely a portion of Guapa on which undocumented cattle grazing took place.

Conclusions

In summary, it appears that the general boundaries of the historic lands known as "Juapa" are comfortably within the general boundaries of the earlier area known as the ethnographic Guapa. Juapa appears to be a somewhat smaller area, at least in terms of the land for which possessory claims were established by numerous squatters during the 1870s. Regardless, Juapa and Guapa are almost assuredly references to the same general area of land. The smaller area of Juapa may readily be explained by the fact that lands to the south of the Santa Ana River were clearly perceived to be a part of Rancho La Sierra by the early 1870s, that lands to the northeast were clearly seen as belonging to Rancho Jurupa, and that lands to the southwest were a part of Rancho El Rincon. The squatters must have believed, however, that the core of the original Guapa Rancho, along the north bank of the Santa Ana River between the eastern boundary of Rancho El Rincón and the southwestern boundary of Rancho Jurupa, were public lands. Although this was later proven to be incorrect (following lengthy court battles and numerous additional surveys), the area continued to be known and referenced by the county assessor as Juapa throughout the 1870s. This is apparently a phonetic variation of the original Guapa or Guapia name.

As a result, it may now be concluded that the location of "Guapa" is indeed a most important part of the early history of the Prado Basin area. Guapa was a regional or area location, with several site-specific landmark and/or place-name locations. The "Aguade Guapas," a place-name of three cienegas forming the eastern boundary of Guapa Rancho, are located within or immediately adjacent (within several hundreds of yards) to the Prado Basin study area. The boundaries of the ranch itself were much larger, including all of the lands to at least the southern boundary of Rancho La Sierra. This also includes a considerable portion of the study area, and, although no place-name locations have been identified here, it is likely that many previously identified archaeological sites within this area may now be linked to Guapa. Two additional place-name locations (Hill of Guapa and Building[s] at Guapa) have also been identified. Only a line-of-sight location is known for these two sites at the present time, but the widely spaced angles recorded by the surveyor would appear to confirm the fact that Guapa encompassed a large area of land. A portion of this area would eventually become known as Juapa, and it would play a colorful role in the history of land acquisition and land disputes that directly impact the development of the Prado Basin study area.

In effect, Guapa serves as a true beginning point in the written history of the Prado Basin study area. It would influence, long after the first Mission-associated landmarks had disappeared, the history of the region from rancho land claims in the 1830s and 1840s, the surveys of the 1850s, early American settlement in the late 1860s and early 1870s, to land disputes and court battles extending into the late 1870s. Furthermore, many late prehistoric and contact period sites within and adjacent to the study area are probably associated with Guapa. The name occurs in many variant spellings as the rancheria of neophytes named in the Mission San Gabriel registers (Muñoz 1982). The native villages,

like the identification of the two known Guapa-related historic sites, await future investigation.

Research Issues

The purpose here has been to correlate data provided in previous reports, add additional, focused research, and demonstrate how each aspect of the growing body of studies eventually comes together and adds up to more than any one investigation taken separately. Thus, the factual knowledge of the Rincon townsite and the summary of early transportation systems have been utilized to contribute towarad establishing the location of Guapa, and to determine whether Guapa has any relation to the history of the Prado Basin study area. It has been shown beyond reasonable doubt that Guapa, and the much later Juapa, are clearly associated with lands that extend well within the boundaries of the Prado Basin study area, and that the history of Guapa and Juapa are both of extreme interest to the better understanding of the historical growth and development of the Prado Basin study area.

Several outstanding issues do remain. These are largely reflections of the fact that Guapa appears to have been a large area with several site-specific locations, rather than a single and well-defined entity. As a result, the research conducted to date is limited because of the size of the area itself. Much additional research may profitably be conducted with relation to Guapa. This includes:

1. Examination of all yearly reports for San Gabriel Mission, including the summaries of birth, death, and baptismal records for the period extending from circa 1812 to the 1830s;

2. A review of information relating to the partition of mission lands in the 1830s;

3. A review of information pertaining to all original land grants (late 1830s to late 1840s), especially those of La Sierra, Jurupa, and El Rincón. In addition, the court case files regarding the confirmation of these ranchos (1850s to 1860s) should be read;

4. Collection of all of the surveyors' raw data (1853 to mid-1870s), including draft maps, original contracts and survey instructions as specified under contract, missing field notes (not on film at the Bureau of Land Management [BLM]), and consultation of the surveyors' field books. These resources are located in a number of different locations (Washington, D.C.; Sacramento; Huntington Library; County Archives; and the BLM, Riverside);

5. In-depth consultation of all possessory claims for Juapa during the period extending from the late 1860s to the mid-1870s; and

6. A review of the court records regarding the eviction of squatters from claimed lands during the late 1870s.

It is inconceivable that additional information regarding Guapa/Juapa will not be discovered during the implementation of such a

research program. Now that a general idea of where Guapa was located, what it was, and what it consisted of is known, future research may be conducted in both a focused and highly productive manner. Archaeological efforts should survey and, if warranted, test the areas of potential remains.

The benefits of conducting such research apply to several independent but decidedly interrelated concerns of the research design. The first would apply to a much more accurate description of the early or Mission-associated history of the Prado Basin study area, and it would continue this history to include the land disputes of the 1870s. The second would be to provide the archaeologist with an opportunity to relate regional and previously known prehistoric sites to a Mission-associated ranch system. The third would be to show how an ethnographic location/name is incorporated or transliterated into the historic record. Each of these Guapa-related issues is not only important to an understanding of the Prado Basin, but, now that a very basic understanding of what and where Guapa was is known, to a more comprehensive interpretation of the archaeology, ethnography, and history of southern California.

Architecture

Although non-Indian settlement of the Prado Basin began in the mission period, there is relatively little standing architecture remaining within the study area because many structures were demolished or relocated as part of the dam construction. Many of the earlier adobes and other buildings had already deteriorated in disuse or been destroyed during periods of growth prior to the flood control efforts. Yet the architectural inventory of the basin, revealed either archivally or archaeologically, spans virtually the entire range of California's building history.

The architectural heritage of the state is extremely diverse.

> In so vast an area, encompassing as it does almost every possible terrain, climate and material condition, and settled by people from almost every known race, nation and region, it was inevitable that almost every conceivable building culture would be imposed upon the country and flourish here. As a consequence, California's frontier architecture was not, as legend so often has it, an organic representation of such regional conditions as the land, the climate, or native building materials. Rather it was a visual projection of the continuing world-wide immigration that today, as always, is the central fact of California culture [Kirker 1973:xiii].

California's architecture in the nineteenth century may be most accurately described as eclectic in style, type, material, and form, and this thesis applies to Prado Basin. In the early days, however, economics and national background most immediately conditioned the

expression of Kirker's "visual projection" which is the basis of California's architectural heritage.

Early Adobe Buildings

Limited excavations have been conducted at several early project area structures including the Bandini-Cota Adobe, Aros-Serrano Adobe, Yorba-Slaughter Adobe, and CA-RIV-2802. Almost all of the investigations focused on early historical residential complexes have, in fact, been addressed to these resources. They provide a basis for comparative studies, and for the evaluation of other adobe buildings and related features. The data are of particular importance since only a fraction of the potential adobe structures has been identified, located, or researched.

Among those suggested by documentary evidence but not yet confirmed on the ground is one referenced in the water claims record of F. M. Slaughter and H. M. Hust in 1871. The claim notes that a "zanja" crossed Slaughter's land "to his fields near the adobe of H. M. Vale." Nothing is presently known of the date of construction, location, or owner of this adobe, except that it must have been situated in the vicinity of the Yorba-Slaughter Adobe.

Another untested adobe site is suggested in the 1875 survey notes of John Goldsworthy referring several times to "the adobe house of Antonio Aros." Goldsworthy's map of T 3S, R 7W depicts two Aros adobes (Greenwood, Foster, and Duffield 1987:9); the more northerly of the two, occupied after 1879 by his kinsman, Francisco Serrano II, has been investigated, but the southern, and probably earlier of the pair, present by 1853, has not been relocated.

Several additional adobes probably existed in the Prado Basin. Langenwalter and Brock (1985) mentioned the Manuel Feliz Adobe and Davenport house cluster (PB-143) and possible Peralta Adobe site (PB-144). The historical study of the Rincon townsite yielded tentative locations of four other adobes which antedated the establishment of the town and are almost certainly associated with the Californio or Rancho period (Greenwood and Foster 1988). Further examination of the surveyors' notes and water records will undoubtedly lead to the identification of additional structures. For example, Hancock referred to the "Ranch house of Las Yorbas" several times in his 1853 field notes; this cannot be the existing Yorba-Slaughter Adobe since he described the location as "situated on the N. Bank of the Santa Ana river."

That there is some urgency for pursuing these studies is emphasized by the vulnerability of adobe to the destructive effects of wind and water. The Bandini-Cota Adobe, for example, was evaluated as in reasonably good, very restorable condition in 1922; portions of the roof and walls two stories high were still intact in the early 1930s; the walls, after loss of the roof, had melted to about seven feet in height by 1971 (Wilke 1971), and there has been accelerating deterioration since then. Walls of other structures which have been

inundated or buried with wet sediments would be perhaps even more vulnerable to melting away because of the high water table.

More than any other single building material, adobe characterized the architecture of early California. Throughout the Hispanic period, the use of stone or fired tile was the exception, usually reserved for ecclesiastical structures. The adobe brick was responsible for such design traits as heavy walls, broad foundations, limited openings, projecting eaves, plain wall surfaces, and widespread use of the flanking porch or corredor (Greenwood, Frierman, and Foster 1983:107).

Early American Period

Information about early Anglo residential units and settlement patterns is also limited. Without many examples of standing structures remaining for study and documentation, additional data concerning this period will have to be derived from detailed study of the various archives, assessment rolls, and historical photographs, and archaeological investigations.

The locations of certain early Anglo-American structures can be estimated from the General Land Office (GLO) maps and surveyors' field notes. John Goldsworthy's 1875 survey, for example, illustrates numerous settlement and occupation locations, such as these shown on a portion of the map reproduced as Figure 3.4:

House of Luis Grijalva
House of C. Robb
Cotas [sic] sheep camp
C. Yount's house
Goldsmith's store
House of Fowler and Gates
Mayhews board fence
Ditch and fence of C. Younts (GLO Map of T 3S, R 7W).

The 1873 map of Rancho La Sierra identifies two additional locations as the house of Juan Jose de la Luz Garcia, and a house occupied by C. Arriola; these could be either adobe or wood frame structures.

Virtually every historic GLO survey map contains additional references to structures and built features. All have disappeared from the landscape, as a result of secondary constructions, natural flooding, or land clearing, but archaeological efforts based on archival records can contribute data about the region's architectural heritage even in the absence of standing structures.

Such investigations will reveal the locations of early Anglo-American settlement clusters, as well as the nature of individual buildings. Water claims records indicate that concentrated settlement in the project area was well advanced by the late 1870s, prior to the platting of Rincon/Prado. On April 16, 1877, C. Yount, B. Vines, and F. M. Wood claimed waters from Chino Creek "for agriculture, irrigation, and domestic purposes: to be used upon the Ranchos of the above

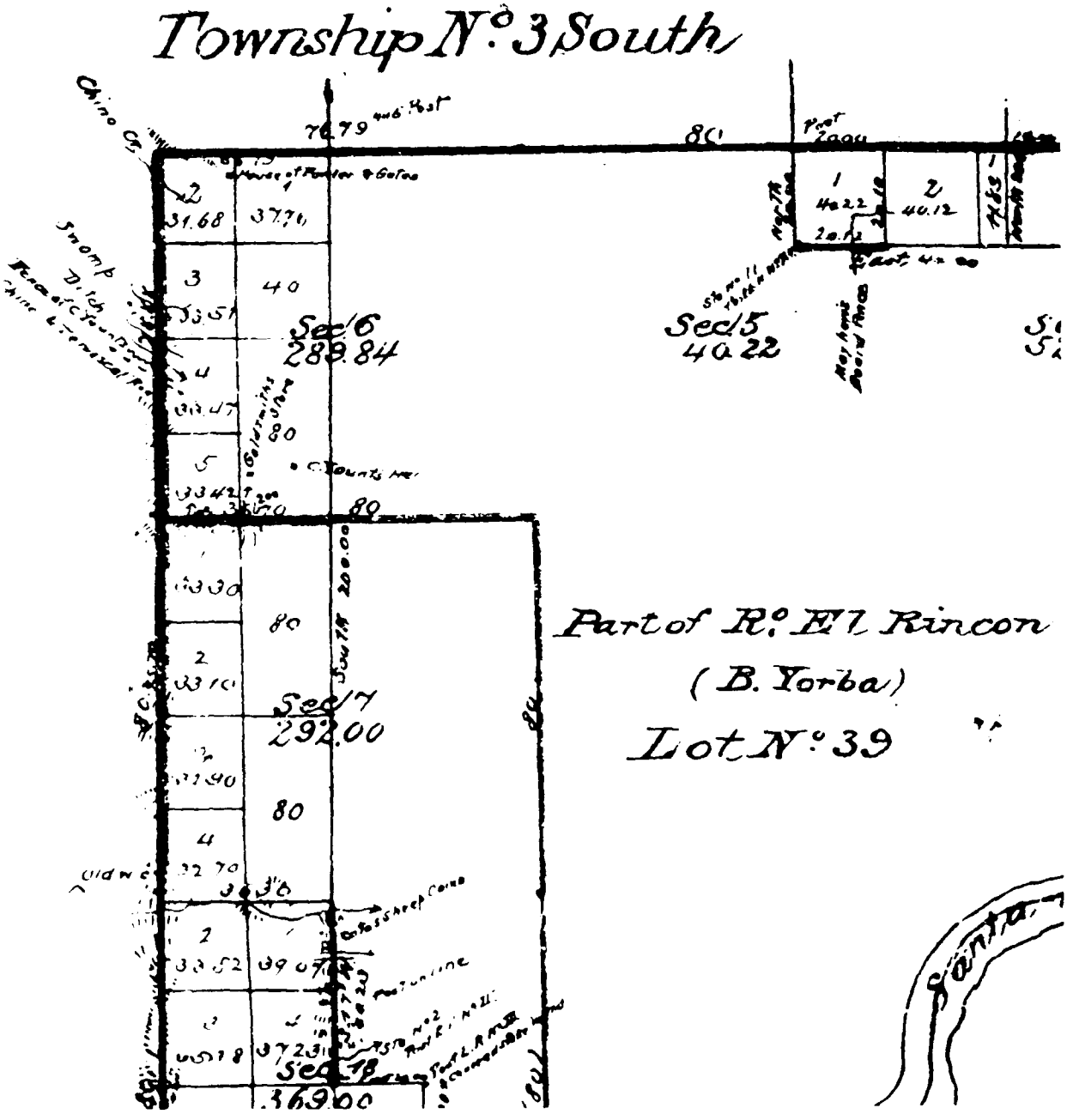


Figure 3.4. Portion of Goldsworthy's 1875 Map, T3S, R7W. Note: House of Fowler and Gates, Ditch and fence of C. Younts, Chino & Temescal Road, Goldsmith's Store, C. Yount's house, Cota sheep camp, Mayhew's board fence.

mentioned parties." One month later, the Lore Sulenger heirs, J. M. Hathaway, John Taylor, and R. W. Rives also claimed water from Chino Creek.

The Early Hamlet of Rincon

By the 1870s, therefore, a small settlement called Rincon was established. Based on local information, it was first thought to have been located near the Yorba-Slaughter Adobe.

> During the 1870s a settlement existed known as Rincon which had the Yorba-Slaughter Adobe as its functional and geographic heart...By all accounts it was at most a cluster of buildings on top, at the foot of, and near the hill on which the adobe stands today [Greenwood, Foster, and Duffield 1988:54].

The hamlet reportedly had a store, saloon, one or more mills, and a blacksmith shop, in addition to the residences of John Noble, Taylor, and Yount. The actual location is now believed to be in the west half of Section 6, T 3S, R 8W, where Goldsworthy's 1875 GLO map depicts the location of Goldsmith's store. The discrepancy in location does not diminish the importance of the hamlet of Rincon in relation to its architectural significance. It greatly increases its research potential because the situation, if confirmed, would represent a radical departure from early Mission, Californio, and Rancho Period traditions. It would appear that safety, water, and sunlight were the effective conditions in site selection and construction of early residences.

> The Californian constructed his adobe on elevated ground to protect the mud walls from water erosion; the house was placed upon an open treeless site to insure continuous sunlight and to guard against Indian attack and stock thieving [Kirker 1973:15].

The hamlet of Rincon, in contrast, was apparently situated adjacent to and probably on both sides of Chino Creek, on the lowlands east of the Yorba-Slaughter Adobe. This is not typical of the locations chosen by early Californio settlers, and it is thus possible that the structures were built of wood, rather than adobe, to avoid the moisture problems associated with mud brick buildings in low-lying areas.

Although this conjecture has not been tested archaeologically, it may be speculated that the buildings were simple structures of balloon frame construction. The use of balloon frame, accelerated by the Gold Rush, is generally credited with the rapid expansion and development of the American West. The basic principle of this method involves the replacement of expensive mortised and tenoned joints with narrow plates and studs joined with nails.

> The balloon frame marks the point at which industrialization began to penetrate housing. Just as the trades of the watchmaker, the butcher, the baker, the tailor were transformed into industries, so too the

> balloon frame led to the replacement of the skilled carpenter by the unskilled laborer [Giedion 1978:349].

The establishment of the hamlet of Rincon forever changed the architectural face of the Prado Basin study area. Its founding date, range of business enterprises, and population have not been determined, but it was almost certainly in place by 1877 when Yount, Taylor, Hathaway, Vines, Wood, and others claimed water rights along Chino Creek. It is likely that a number of balloon frame structures were present even prior to the settlement of the hamlet, and that further research will suggest such locations. Clearly, architectural precedent had been established, and the alternate forms of construction which continued to employ adobe after the mid-1870s may be regarded as something of an anomaly, no longer the norm.

The Town of Rincon/Prado

Previous studies have summarized the growth and development of Rincon/Prado, and suggested where a number of identified structures may yet be found below the surface. The potential for creating a comprehensive architectural history of the community is excellent. The County of Riverside Tax Assessors Map and Lot Books for 1892-late 1930s are available, and some rolls have been located for earlier years; numerous historical photographs are available locally and in the Corps of Engineers' property acquisition records; and previous research has developed background biographical data on some of the founders and residents.

Architecturally, Rincon is a typical "boom town" of the 1880s. It was built rapidly, and almost entirely of balloon frame construction with board-and-batten or clapboard siding. With the exception of the hotel which utilized a brick foundation, all of the structures appear to have been one story in height and vernacular in design. During its most flourishing years, the town had a railroad station and freight service, post office, hay barn, lumber yard, several stores, a blacksmith, school, saloon, a newspaper, reservoir, and numerous residential units. It would develop a true business core at the intersection of Center and Main Streets, and its own barrio of sorts, at the southern end of Center Street.

Rincon/Prado offers a rare opportunity to study the entire life cycle of a nineteenth century, rural California town which replaced the existing Californio adobes and sheep camps and was in turn replaced first by commercial dairy enterprises and ultimately, by events related to the construction of Prado Dam. It provides the essential baseline against which to reference the architecture, growth, and development of the entire Basin.

Prado Basin: Late Nineteenth Century to 1930s

By 1887 when the town of Rincon was founded, the building industry in the Prado Basin study area was already well established. The 1887 San Bernardino City and County Directory lists the following construction tradesmen in the Chino area:

Arborn, Russell - blacksmith
Booker, Sanford - carpenter
Brown, S. D. - carpenter
Griffin, Peter - mason
Hidden, George - blacksmith
Yount, Caleb - blacksmith
Weber, J. H. - carpenter (Morrill 1887).

In Rincon itself, the 1888 directory listed Abram Campillo as carpenter, and George Clark as contractor. The San Bernardino City and County Directory of 1889 listed the following in the Chino Ranch vicinity:

Anderson, Gustav - carpenter
Brenell, C. W. - carpenter
Brown, R. D. - carpenter
Davis, Wm. W. - mason
Hidden, George - blacksmith
Kennison, Sam'l - carpenter
Knott, N. G. - contractor
Pearson, John - carpenter
Yount, David - blacksmith
(McIntosh, Flagg, and Walker 1889:13-14).

The building trades and related industries were thus specialized and thriving by the late 1880s, and actually represent the third largest employment category in the Chino area in 1887 and 1889. The skilled trades included both a well borer and a steamfitter (Bushwell 1898:n.p.). As a group, they were fewer only than the farmers and laborers. By this time, it is postulated that a high proportion of the buildings in the area--especially the larger ones--were built by specialists, rather than by the nomeowners with Indian labor. Beyond the direct employment of carpenters or masons, an increasing number of structures were being built by contractors; Leo Kroonen of Corona is reported to have erected the Rincon School, and the firm of A. W. Boggs (South Riverside?) was responsible for the hotel.

The extent to which the specialization in building trades affected the local area is unknown, but it is likely that an increasing number of Rincon area structures were contractor- or carpenter-built. The sequence is demonstrated at the McCarty Ranch; while the old homestead cabin was reported built by members of the family, the main ranch residence of 1906 and the larger barns were almost certainly built by specialists. The increasing availability and local sources of building materials such as milled lumber, shingles, nails and hardware, fired bricks, cement, and other essentials has not been studied, but in the later years, fired floor and roof tiles were being manufactured at Rincon/Prado from local clays.

In the 1930s and thereafter, a new style and building material were employed in the local dairies. Many of the farms adopted a curved glass block facade (Figure 3.5) which merits assessment as an industrial/architectural district. No systematic recording or inventory

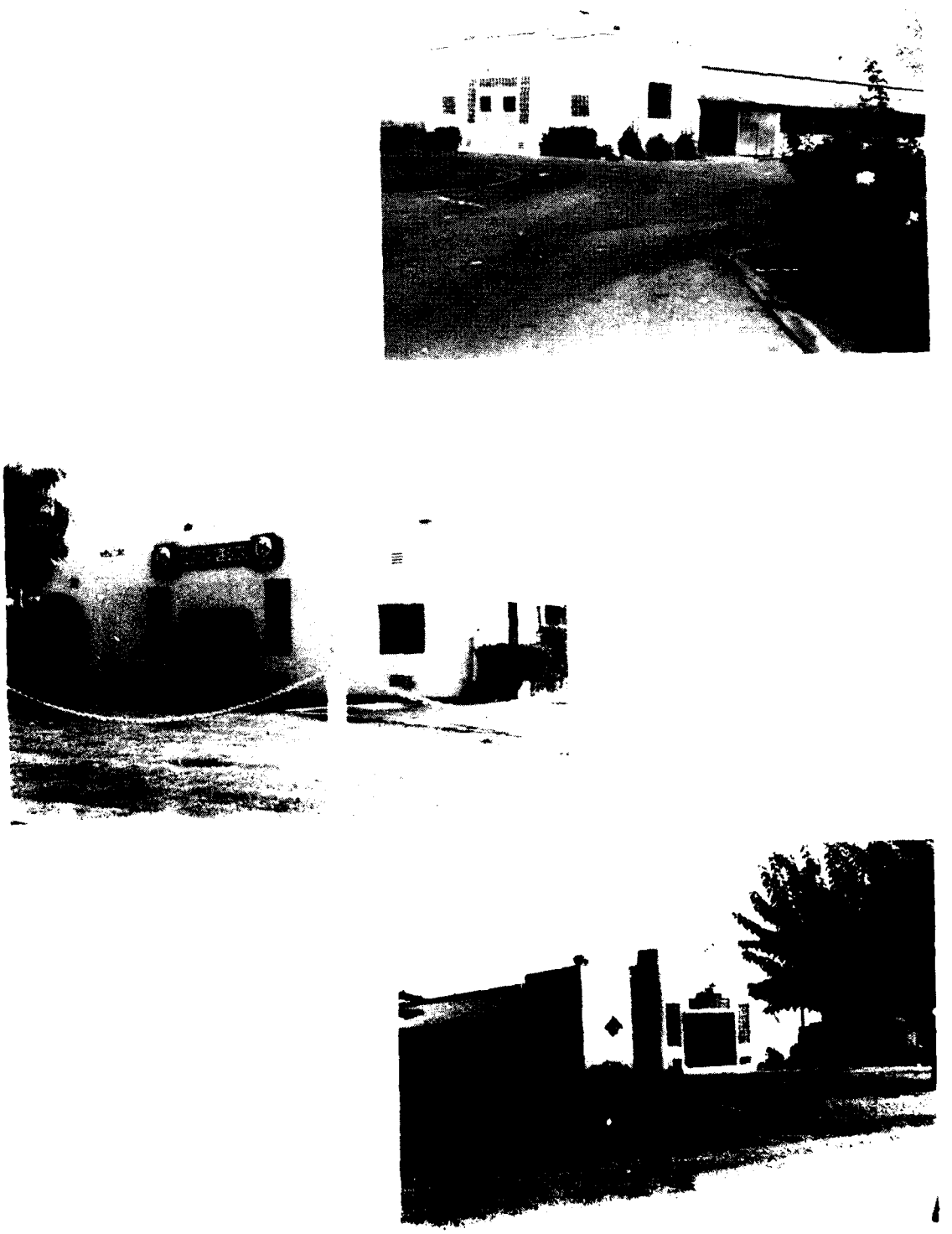


Figure 3.5. Representative Twentieth Century Dairy Buildings. (Photographs by John Foster.)

has taken place, but examples have been observed along Grove, Hellman, Riverside Drive, and the Chino-Corona Road. Vernacular farm architecture rarely conforms so consistently to a stylistic trend (Swanson and Hatheway 1989a). Avenues for research include any possible correlation with the national origin of the owners, and documentation of construction type, floor plan, materials, workmanship, and age of the standing examples.

Research Questions

1. How many additional adobes are referenced in primary sources of information; can their locations, owners, and functions be determined?

2. Do early adobes differ in floor plan, construction method, and siting from those ascribed to later years; do later adobes reflect a convergence of Euroamerican traits with traditional Hispanic building materials?

3. Can the hamlet of Rincon be relocated; what was its duration and economic base? Who were the settlers and what was their place of origin?

4. How complete and accurate a town map of Rincon/Prado can be reconstructed from primary sources of information? What were the major development patterns and incentives? Relation of property owners to renters?

5. How did the architecture of Rincon/Prado compare with other California boom towns, and with the rest of Prado Basin? How did the architecture reflect the rise and fall of local prosperity, and shifts in local enterprises?

6. What were the sources of building materials and skilled tradesmen?

7. What stylistic types or trends are characteristic of the Prado Basin? Were the glass block dairies, for example, a regional adaptation of a national type, or did outside investment influence local architecture? What is the distribution of the style in the region? Was the style an individual innovation which diffused, or a contractor's plan? If a local reflection of a statewide or national trend, what was the lag in introduction?

Observation of the dairies while traveling within the study area prompts the recommendation that all standing architecture in or adjacent to Prado Basin should be inspected and where justified, recorded and researched. The second method for addressing the architectural questions involves the identification, description, and assessment of historical files and photographs, beginning with the Real Property and Acquisition Records on file with the Corps of Engineers. These documents contain a great wealth of information, including pictures of buildings long since demolished or removed. For example, details and photographs of the small frame buildings at the north end of Rincon/Prado, rented to dairy employees, provide valuable insights into

social and material culture at locations where there may be no physical remains accessible to the archaeological method.

Palynology

Palynological research activities are seldom integrated into California archaeological studies, and they are distinctly rare in historical archaeology. Not more than 4-6 reports exist which incorporate analyses of the pollen from historical site contexts (James Schoenwetter, personal communication 1987). Two of these refer to samples collected from the Prado Basin, and a third analyzed samples from the environmental and structural contexts at the Ontiveros Adobe, an early rancho site in the same cultural region, just over the border into Los Angeles County. The research concerning the Aros-Serrano Adobe was a pilot study designed to reveal the variety of potential values to historical archaeology from analysis of the pollen of adobe bricks and mortar; it demonstrated quantifiable differences in the construction of the walls which may be a result of chronology, seasonal or longer-term differences reflecting remodeling or repair, or distinction in the origins of the raw materials. The analysis of samples from the Rincon townsite and CA-RIV-2802 was part of a focused test of the two historical properties, limited to the evaluation of the culturally significant pollen records at the two sites. These research efforts were only preliminary and reported as adjuncts to the archaeological investigation (Gregory and Schoenwetter 1987, 1988), yet inter- and intra-site strata were correlated with each other and with historical events. The earlier study of the pollen record at the Ontiveros Adobe was able to discriminate the successive layers of replastering on the earthen floor of the structure and to recreate the botanical landscape from its natural flora through the changes caused by settlement, stockraising, agriculture, and site abandonment (Schoenwetter and Limon 1982:181-212).

These efforts at the test level have already provided more information about the pollen of historical period deposits in the Prado Basin than almost any other part of California, and more about the pollen of clay-based construction materials from this area than any other single location in the world, yet the data are not truly substantive (James Schoenwetter, personal communication 1987). Each analyzable sample--irrespective of the number of pollen observations involved--is a single datum (i.e., pollen spectrum) to the palynologist; it is the equivalent of a single fragment of one artifact from a single location. In effect, therefore, the existing data base from the Prado Basin is equivalent to the archaeological recovery of 12 artifacts from one location, 36 items from a second, 19 objects from a third, and observations of 16 items (surface pollen samples) from an enthnographic context which <u>may</u> constitute analogs significant for interpretation. The data gaps are thus profound.

On empirical grounds, as opposed to theory, the tests have demonstrated that:

1. Pollen can be recovered in analyzable quantities from a significant fraction of the historical contexts in Prado Basin.

Extraction techniques appropriate to large volume samples must be employed, and the analyst must be prepared to expend up to three times the normal amount of labor to identify and count the pollen of a spectrum.

2. Pollen spectra of sites which are independently evidenced to be of comparable age are recognizably identifiable as members of the same statistical population. Alternatively, pollen spectra of sites determined by other classes of data to be of different age are identifiable as members of distinctive, statistically defined populations.

3. Some pollen spectra independently dated to the last 50 years (i.e., the horizon following the construction of Prado Dam) are statistically similar to spectra representing modern pollen rain collected in 1986. Others are not. But those which differ are sufficiently similar to modern pollen rain collections that arithmetic and statistical calculations would probably reveal patterns subject to interpretation. Although such methods are well established in modern palynology, they cannot yet be applied to the Prado Basin samples because they require statistically large populations of pollen spectra incorporating statistically large numbers of pollen grains (James Schoenwetter, personal communication 1987).

Based on the empirical results to date, theory basic to archaeology and palynology suggests that further pollen research is likely to provide valuable information and address data gaps in five major areas of study:

1. Determination of the relative and/or chronometric antiquity of directly or indirectly associated assemblages of cultural material;

2. Determination of sequences of ecosystem modifications;

3. Determination of sequences of land-use practices;

4. Analysis of behavioral changes which constitute significant modifications of subsistence or economic adaptive strategies; and

5. Analysis of such site formation processes as construction events, cultural material disposal events, geomorphological feature formation events, site component destruction events, and post-abandonment decay and plant succussional events.

Experience further teaches that achievement of one or all of these objectives will be labor-intensive and logistically demanding. However, the palynological method has the potential to address research problems which neither the direct historical nor archaeological approaches can pursue alone except in few, unusual site situations. While neither palynology by itself, nor historical archaeology alone, is a cost-effective strategy for pursuit of such research goals, the articulation of pollen analysis into the program for historical archaeology, as an aspect of the basic research and not as adjunct to it, will maximize the data recovered and the possibilities for validated interpretation.

The pollen records trapped in the archaeological sites of the Prado Basin constitute an irreplaceable, non-renewable, and virtually untapped source of information relevant to the historical (and, of course, prehistoric) heritage of the region.

The technology to mitigate loss of this resource is available, and the method has the potential to recover data beyond reach to archival or archaeological investigations alone. Pollen resources are lost not only as a result of inundation or construction, but during the course of any archaeological work which creates exposure of the polleniferous deposit. The act of collecting and curating samples, or even the programmatic analysis of some samples, does not create a palynological data base of demonstrable cultural heritage relevance.

The traditional research designs of Quaternary pollen analysis consider the depositional contexts of pollen records from geological and ecological perspectives, compare pollen records from different locations, and may, under certain conditions, justify inductive arguments concerning behavioral patterns which have affected past pollen rains. They do not address issues of archaeological relevance such as as the direct or indirect association with artifact assemblages, implications of site-specific behavioral reconstructions and historic information, or the theory, methodology, and site-specific rationales guiding archaeological data recovery and analytic strategies. For the Prado Basin sites, research designs are needed which are site-specific as well as program-specific, to achieve archaeologically relevant objectives.

Research Domains

Questions which have been addressed to specific sites in the previous studies and test excavations are relevant to the research design for Prado Basin as a whole. The following problems were suggested in the research plan developed for the Rincon/Prado townsite (Greenwood and Foster 1987:11-14).

Architecture

A number of questions have been generated for this topic. To what degree do the adobes perpetuate mission traditions (e.g., massive stone foundations, linear room arrangement, siting, plastering, etc.)? In what manner was acculturation, or resistance to it, evident in Californio architecture? For example, were there differences between the first and later adobes, and which people continued to build with adobe after the advent of wood frame buildings? Were there typical manifestations of acculturation evident in the architecture (e.g., use of corrugated iron roofing on adobes, or shifts from Hispanic to Anglo floor plans and room functions)? Were there changes in the building styles and materials after the increase in Anglo population? To what extent did the boom of the 1880s determine the architecture of Rincon? Differences between residential and commercial construction? Does the vernacular architecture reflect considerations of status or permanence? What elements of Anglo building practices are present, such as an

interior kitchen, interior stairway, or chimney? In the later period, are there demonstrable differences between residential and commercial construction?

Economy

Fundamental issues within this domain relate to the regional economy of the project area, changes through time, and the extent to which the settlement patterns reflect it. To what extent are events at the state and national level reflected in Prado Basin, and is the regional economy manifested at the site level? To what degree did the boom of the 1880s and subsequent investment in land and structures affect land use, demography, and the economic base? With the advent of the railroad, how did the economy change? What changes in the archaeological record can be attributed to drought, flooding, or the declining fortunes of the town of Rincon?

Are changes in a site's primary economic orientation demonstrated in the archaeological record? Any evidence of declining fortunes or the residents' nationality? Do the people seem to have greater access to manufactured/commercial goods because of the arrival of the railroad, and does this event coincide with the shift from production for subsistence to production for export? Did the population increase in the vicinity result in increased pressures for improved transportation, systematic disposal of wastes, and other social institutions? What is the relationship between size of landholdings and arability or access to water?

Subsistence

What are the differences between Anglo and Californio subsistence practices and to what degree are they manifested in the archaeological record? How long, and to what degree, are ethnic differences reflected in faunal remains, architecture, and other facilities dealing with subsistence activities? Are there any demonstrable changes in a site that reflect a family's food habits, either in procurement or consumption? How accurately were national trends in packaging, marketing, and tastes reflected in Prado Basin?

Land Use

What were the major uses of land in the project area through time? What factors contributed to the division of Californio land holdings, and to recombination in later years? To what degree did agriculture support or replace animal husbandry? Was the introduction of the railroad responsible for changes in the nature and type of crops and animals grown? To what extent does the location of the land reflect economic status and subsistence practices? How did water transport and irrigation systems evolve through time?

Cultural Materials

Is there evidence of ethnicity or national origin in the ceramic inventories? Purchases or consumption patterns as revealed in glass

containers or beverage bottles? Is economic status, or the decline in prosperity, reflected in the refuse deposits? How do the rural assemblages compare to collections recovered from the townsite of Rincon? How closely can the function of an associated structure (e.g., commercial or residential) be deduced from trash deposits?

To what extent is the assemblage of a given period typical of other contemporary sites? In what respects does it differ by reason of urban/rural comparisons, national origin of the owners, family occupation, economic status, or relative dependence of the domestic unit on access to manufactured goods? How accurately does the assemblage portray the demography of the household, and its financial stress?

These questions can be utilized to address the reliability and accuracy of the models. In theory there should be four assemblages that can be distinguished: early self-sufficiency, a transition period with some measure of reliance on the town, regional dependency, and finally, near total dependency.

The early self-sufficiency assemblage will include canning jars, vernacular architecture and facilities, local building materials, home butchered bone, remains of native fauna, ceramic cooking vessels, full range of tack and harness, and so forth. The town dependency assemblage will contain a large number of commercial items of a solely domestic nature, except for the business establishments which could have a full range of items for sale, imported building materials and styles, and more goods purchased through regional or national marketing systems. These artifacts and structural remains will be limited to areas within the town or its associated refuse deposits. The cultural materials typifying the regional dependency sites will be found outside of town; the ranch sites may contain elements typical of both self-sufficiency and dependency. Since a number of the sites have known dates of construction and fall within this category, it should be possible to document the constituents and range of variation. Total dependency will be reflected in modern times almost exclusively related to farming, sheepherding, hunting and other recreational or seasonal activities. There should be very little domestic refuse present except as a by-product of the lease function.

Summary

The case study examples of transportation, water systems, Guapa, and architecture were presented at length to emphasize how closely the essential themes are related, that research into any single topic inevitably yields data relevant to other lines of investigation, that the historical record is by no means complete at this time, that the archaeological inventory is still likely to grow, and that both history and archaeology have distinct roles to play in the implementation of the resarch design. The method of pollen analysis was suggested as another avenue of research with great potential to contribute information in support of site and regional chronology-relative and absolute, the interpretation of structures, sites, and landscapes, and in some

instances, perhaps the only source of data at sites where no cultural materials have survived.

4. SITE EVALUATION

Introduction

Each successive survey and phase of historical research has added to the cultural resource inventory. Prior to 1975, only two historical sites were generally recognized, the very obvious Yorba-Slaughter Adobe and the standing, but deteriorated, Bandini-Cota Adobe. Two more sites were added in 1975, three in 1977, two in 1979, and 10 in 1980. As a result of U.S. Army Corps of Engineers (CoE) studies, the total rose to 165 in 1985 (Schwartz 1988). Many additional potential sites have been suggested by examination of old maps, GLO surveyors' notes, and such documents as water claims or court records. Some sites discovered only through this kind of archival research, such as the Aros-Serrano Adobe, have proven to retain significant subsurface deposits even though no archaeological remains visible on the surface were observed during field surveys. It is more than likely, therefore, that the inventory is not complete, and that additional sites, structures, or features will be encountered as a result of future research, field work, or the processes of construction, land clearing, and natural erosion.

Some of the sites which were identified and at least tentatively located and dated by Langenwalter and Brock (1985) cannot be inspected or evaluated at the present time because they are under the local golf courses or otherwise obscured by existing structures or facilities (e.g., dairies) or buried below sediments. The results of test excavations at the Aros-Serrano Adobe, the Rincon townsite, and CA-RIV-2802 suggest that many of these sites known only from archival research have been accurately mapped, can be relocated, and the subsurface remains may retain scientific integrity

Each successive study, whether of broad systems (water or transportation) or a single site, has yielded additional information about individuals and activities important to regional history or relevant to other sites. In this sense, no investigation can be regarded as the "last word," and no research is ever complete. Each effort over the years has been additive to the understanding of the region as a whole.

Field Inspection

The primary purpose of the field investigation was to assess the archaeological potential of the historical resources within the study area. In conjunction with additional archival research, a summary of the known attributes of each site was prepared (Table 4.1). The tabulation provides the site number, average elevation above mean sea level, the type of site and some of the facilities or features known or said to have been present, the known or speculated period of occupation, observed remains of the site, and whether the site has been tested archaeologically. During this and a prior investigation (Greenwood et al. 1987), 64 of the sites were inspected.

Table 4.1. Historical Site Summary

Site No.	Name/Type	Elevation (Surface) AMSL	Est. Period Occupation	Observed Remains*	Tested**
CA-RIV-653-H	Bandini-Cota Adobe	525-535	1840+	F,TS,TP	GFF 1983
CA-RIV-1039	Ashcroft Ranch	540	1916	F,TS	
CA-RIV-1044	Pate Ranch site	540	1900	SS,TS	
CA-RIV-2203	Fear Ranch site	506-520	1899	F,TS	
CA-RIV-2204	La Puerta Abierta	506-520	1888	F,TS,W	
CA-RIV-2778	Aros-Serrano Adobe	495-500	1870s	F,TS,W	GFD 1987
CA-RIV-2802	Adobe site	505	1890	F,TS	GF 1987
CA-RIV-3372	Rincon Cemetery	540	1800s	B	B 1985; B 1987
CA-RIV-3508-H	Strong/Billingsley Dairy	508-520	1898+	SS,TS,F,W	HGS 1990
CA-RIV-3693-H	Billingsley Dairy	437	1930s	SS	HGS 1990
CA-RIV-3694-H	Santa Ana School	540-550	1888	F,TS	GFDE 1987
CA-SBR-1571-H	Pate Ranch/School	510	1889	TS,F	LB 1985
CA-SBR-2317	Yorba-Slaughter Adobe	555-562	1860s	SS,F,TS	GFD 1988
CA-SBR-5573-H	Britski Ranch	530	1933	F,TS,W	
CA-SBR-6024-H	Jo. Slaughter Home	522	1920	TS	GFD 1988
CA-SBR-6025-H	H. Slaughter Ranch	532	1920s	F,TS	GFD 1988
CA-SBR-6026-H	Melmead site	530	1930s	F,TS,SS	GFD 1988
SAR-H2B	Meredith Ranch site	520	?	F,TS	GFDE 1987
SAR-H2C	Ranch site	496	?	SS	
PF-3	Lt. Cook Memorial	508	1967	SS	
PF-4	Structure site	560	?		
PB-1	Lillabridge Ranch	535	1900s		
PB-2	Coplen Ranch site	530-535			
PB-3	Ranch site	535	1900s		
PB-4	Lillabridge Ranch	540-545	1900s		
PB-5	Lillabridge Ranch	540	1900s		
PB-6	Ranch site	544	?		
PB-7	Johnson Ranch site	545-550	1900s		
PB-8	Farm site	555	1930s		
PB-9	Barn site	555-560	1930s	W,TS,P	
PB-10	Barn site	560-565	1930s		
PB-11	Carrillo Ranch site	520	1900s	F,TS	
PB-12	Ranch site	500-505	1899		
PB-13	Ranch site	495-500	1899		
PB-14	Rincon School site	480-485	1889		
PB-15	Ashcroft 1st Ranch	485	1902		
PB-16	Abe Serrano House	520	1900		LB 1985
PB-17	Excelsior Dairy site	490-495	1926		
PB-18	Goubert Ranch site	525-530	1925		
PB-21	Ranch site	560	1936		
PB-22	Bernor Residence	540-545	1930s		
PB-23	Covington Ranch site	525-530	1899		

Table 4.1. Historical Site Summary (continued)

Site No.	Name/Type	Elevation (Surface) AMSL	Est. Period Occupation	Observed Remains*	Tested**
PB-24	Hartshorn Cabin site	490	1930s		
PB-25	Durkee Rancho site	495-500	1883		
PB-26	Reynolds Ranch site	525	1899	SS,W	
PB-27	Chino Gun Club site	525	1899		
PB-28	McCarty Hog Farm	520	1945	F,TS	
PB-29	2nd Strong Ranch/ Church	508-514	1914	TS	SRS 1987 (church area only)
PB-30	Hartshorn Farm site	500	1890s	TS	
PB-31	West Ranch site	506-514	1899	TS	
PB-32	Warner's Store site	530	1920s		
PB-33	Fuller Ranch House	550	1918		
PB-34	Fuller Ranch site	545-550	1918		
PB-35	Fuller Lake	545-550	1926	F	
PB-36	Gregory Residences	540-545	1899		
PB-38	Wildwood Park site	530	1920s		
PB-39	Amsbury Dairy site	540	1920		
PB-40	Will McCarty Home	560-565	1930	SS	
PB-41	McCarty Homestead	550-555	1878	SS,F,TS	FDGH 1987
PB-42	Farm site	540-545	1899	F,TS	
PB-43	Kirby Farm site	560	1899		
PB-44	Martin Ranch site	550	1933		
PB-45	Songer Place site	555-560	1899		
PB-46	Ben Fuqua Ranch site	515	1880s		
PB-47	Ross Ranch site	535	1889	F,TS	
PB-48	Remington Ranch	530-535	1900s	SS	
PB-49	Ranch house site	540-545	1926		
PB-50	Barn site	530-535	1926		
PB-51	Halstead Dairy site	504-514	1904	TS	LB 1985
PB-52	C.V. Grist Mill site	540	1875		
PB-53	Pioneer School site	500	1887	TS	
PB-54	Cavanagh Ranch site	500	1890s	TS	
PB-55	Richenberger Ranch	515	1898		
PB-56	Yount House site	520	1878		
PB-57	Rincon Cheese Factory	525	1880s	F	
PB-58	Dairy site	522	1933	F	
PB-60	Slaughter Store site	560	1869	SS	
PB-63	Meredith Ranch site	540	1930s		
PB-64	McAlister Ranch site	525	1871		
PB-65	Cavanagh Ranch site	535	1890s		
PB-66	Brown Place site	560	1899	F,TS	
PB-67	Arborn Ranch	560	1857	SS	
PB-68	Willow Springs site	555	1860s		
PB-69	Lester Ranch	565	1870s		
PB-70	Moreno Ranch	555	1890s	SS,TP	

Table 4.1. Historical Site Summary (continued)

Site No.	Name/Type	Elevation (Surface) AMSL	Est. Period Occupation	Observed Remains*	Tested**
PB-71	Aramousby Farm site	560	1900		
PB-72	Pederson Property	560	1920s	SS	
PB-73	Stockwell Store site	560	1920s		
PB-74	Taylor's 2nd Ranch	555	1895		
PB-75	Edward Pine Ranch	555	1915		
PB-76	Samuel Pine Ranch	545	1867		
PB-77	Pederson Ranch site	565	1920		
PB-78	Edwin Pine Ranch	545	1880s		
PB-79	Garetto Farm site	555	1897		
PB-80	Mushagan Dairy site	550	1899		
PB-81	Shields Ranch site	530-535	1875		
PB-82	Mayhew Ranch site	540-545	1900s		
PB-83	Robles Flowers'	555-560	1890s	SS	
PB-84	Elbert Flowers'	560	1920s	SS	
PB-85	2nd Robles Ranch	560	1899	SS	
PB-86	Kraemer Ranch	535-540	1900s	SS	
PB-87	Grange Cemetery	550	1902		SRS 1987; L 1987b
PB-88	Le Gaye Ranch site	540	1883		
PB-89	Rincon Residences	505-510	1800s	F,TS	GF 1987
PB-91	Mayhew House site	545-550	1866		
PB-92	Tule House site	505	1800s		
PB-93	Spillway Cemetery	525-530	?		B 1985
PB-94	R. Serrano House	504-512	?		
PB-95	Serrano Bridge	482	1900	SS	
PB-96	Rincon Bridge	480	1890		
PB-97	Train Bridge	Dam Site	1920	F	
PB-98	House site	520	1920		
PB-99	Payne Hog Farm site	550-555	1878		
PB-100	Prado Dam	469-556	1939	SS	
PB-101	Campio Ranch site	500	1898		
PB-102	Rincon/Prado Town	490-525	1868-1930s	F,TS,W	GF 1987
PB-103	Ashcroft Ranch site	477	1876		
PB-104	Greenfield Ranch site	520	1880s		
PB-105	Valley School site	565	1887		
PB-106	McGuire Ranch site	540	1892	F,TS	
PB-107	Chino Creek Bridge	475	1904		
PB-109	Cavanagh Residence	535	1899		
PB-110	Cavanagh House site	540	1933		
PB-111	Auburndale Townsite	525-630	1880+		
PB-113	Old Ranch House site	485	1866		
PB-116	Cedar Rapids Colony	550	1902	SS	
PB-117	Ranch house site	530	1899		

Table 4.1. Historical Site Summary (continued)

Site No.	Name/Type	Elevation (Surface) AMSL	Est. Period Occupation	Observed Remains*	Tested**
PB-118***	Ranch house site	525			
PB-119***	Ranch house site	515			
PB-120***	Ranch house site	515			
PB-121***	Ranch house site	505			
PB-122***	Ranch house site	565			
PB-123***	Ranch house site	545-550			
PB-124***	Ranch house site	560			
PB-125***	Ranch house site	545			
PB-126***	Ranch house site	545			
PB-127***	Ranch house site	550			
PB-128***	Ranch house site	545			
PB-129***	Ranch house site	540			
PB-130***	Ranch house site	498			
PB-131	Adobe Schoolhouse	480-485			
PB-135	House site	540	1933		
PB-137	Farm	375	1875	F	
PB-138	House	437	1900	TS	
PB-139	Farm	430	1933		
PB-140	Farm	400	1902	SS,TS	
PB-141	Canal	var.	1875	SS	
PB-142	Ditch	330	1860		
PB-143	Adobe	325	1868	TS	SRS 1980
PB-144	Adobe	344	?		SRS 1980
PB-145	Town	415	1933	F	
PB-146	Pump station	340	1890		
PB-147	Bridge	?	1930	SS	
PB-148	Guapa		1820s?		
PB-149	Bandini Adobe	N/A	1830s		
PB-150	Las Yorbas house site	N/A	1850s		
PB-151	Cline Homestead	N/A	1870s		
PB-152	Aguada Guapas	N/A	1850s		
PB-153	Ward Homestead/Zanja	N/A	1870s		
PB-154	House site/Zanja	N/A	1870s		
PB-155	Juan Alverado Ranch	N/A	1870s		
PB-156	J. M. Hathaway Ranch	N/A	1870s		
PB-157	James Hickey Ranch	N/A	1870s		
PB-158	A. Hobbs Ranch/House	N/A	1870s		
PB-159	R. W. Rives Ranch	N/A	1870s		
PB-160	H. M. Vale Adobe	N/A	1871		
PB-161	Bartlett Vines Ranch	N/A	1870s		
PB-162	George R. Vines Ranch	N/A	1870s		
PB-163	F. M. Wood Ranch	N/A	1870s		
PB-164	George Wood Claim	N/A	1870s		
PB-165	Mary Race Farm/Dairy	N/A	1900s		

Table 4.1. Historical Site Summary (continued)

Site No.	Name/Type	Elevation (Surface) AMSL	Est. Period Occupation	Observed Remains*	Tested**
PB-166	Gilbert Kraemer Farm	N/A	1900s		
PB-167	Flickinger Farm	N/A	?		
PB-168	Wilkinson Dairy	N/A	1900s		
PB-169	Pederson Homesite	N/A	1900s		
PB-170	Foster Property	N/A	?		
PB-171	Phillips Farm/Dairy	N/A	1900s		
PB-172	Rehmke Farm	N/A	1900s		
PB-173	Otis Barn	N/A	?		
PB-174	Richter House	N/A	?		
PB-175	Dale Store and House	N/A	?		
PB-176	Fleutsch Property	N/A	1900s		
PB-177	T-Inn Auto Camp	N/A	1930s		
PB-178	Metherell Farm	N/A	1800s?		
PB-179	Pantojo House	N/A	1800s?		
PB-180	Corona House	N/A	1800s?		
PB-181	Grijalva House	N/A	1800s?		
PB-182	Husted House	N/A	?		
PB-183	Chavez Auto Camp	N/A	1930s?		
PB-184	Portland Cement Co.	N/A	?		
PB-185	Slaughter Residence	N/A	1800s		
PB-186	Agliani Dairy	N/A	1900s		

Key

*Observed Remains: SS = Standing structure; F = Foundation(s); TS = Trash scatter; TP = Trash pit; P = Privy; W = Well; B = Burial(s)

**Tests (excavation or magnetometer): B = Brock 1985, 1987; GFF = Greenwood, Frierman, and Foster 1983; GFD = Greenwood, Foster, and Duffield 1987, 1988; GF = Greenwood and Foster 1987; GFDE 1987 = Greenwood, Foster, Duffield, and Elliott 1987 HGS = Hampson, Greenwood, and Swanson 1990; FDHG = Foster, Duffield, Hatheway, and Greenwood 1987 L = Lauter 1987a, 1987b; LB = Langenwalter and Brock 1985 SRS = Scientific Resource Surveys 1987, 1980

***Unidentified houses and facilities

Table 4.1 does not purport to be a total inventory of all historical sites in the Prado Basin. It does not include certain sites regarded as prehistoric but where historical artifacts were recovered during excavation, or where structures are depicted on the site maps. Examples include CA-RIV-1098, -2754, and -2755, and CA-SBR-1543, -4032/5096, and -5243 (Langenwalter and Brock 1985). The dates provided in the fourth column should be used with great caution; unless documentary research has been conducted, many of the attributed periods of occupation were derived solely or entirely from the Desborough manuscript written after 1939, aerial photographs of 1936, and the appraisal records. Many of the sites whereon there were standing structures in the 1930s have an occupation and ownership history which can be traced back into the nineteenth century.

Twenty-nine of the sites were visited during this investigation to obtain additional information to support the evaluations. At a few locations, additional cultural material was observed; some have suffered disturbance since described in 1985 or visited in 1987; and certain properties were not entered because they are currently occupied, fenced, or otherwise inaccessible. The following notes are examples of present conditions and observations which augment or differ from the descriptions provided by Langenwalter and Brock (1985).

PB-28. An examination of this site's boundaries and cultural materials took three hours to complete. The deposit consists of thousands of artifacts and ecofacts at the bottom of an arroyo, and there is evidence of a substantial subsurface component. The site was originally recorded as foundations at the east end for the McCarty hog operations. Stretching west and down into a relatively wide east-west oriented arroyo is the trash deposit. Although originally reported (Langenwalter and Brock 1985:8.64) to date to the 1940s, visible artifacts include sun colored amethyst glass and hand tooled bottle finishes characteristic of the turn of the century. It appears that the deposit is relatively untouched by either relic hunters or natural flooding.

PB-41. Since the test excavation, the woods across the road from the McCarty complex have been cleared and new fields put into cultivation.

PB-63, -78, -79, -81. These are under golf courses. The probable locations of old structures on PB-63 and -81 are suggested by a palm tree and a windbreak, respectively.

PB-57 and -125. Both locations are freshly graded, with substantial modification of the contours. At the latter, a whole mano and a scatter of historical artifacts were found in the disturbed context.

PB-82. Although much of the surface is paved, an extensive area of cultural material was observed at the west end of the property; artifacts included sun colored amethyst glass, hand painted porcelain, flow blue earthenware embellished with molded border and slipped dots, a small doll body, and backstamps of Homer Laughlin and Knowles, Taylor

and Knowles. The remains suggest a domestic deposit, consistent in age with the Mayhew occupation established prior to 1902 (Langenwalter and Brock 1985:8.92).

Only 20 of the historical sites have been tested. Even including those investigated by magnetometer only, this represents 20 percent of the known inventory, as compared to 64 percent of the prehistoric sites which have been sampled. The greatest constraint on the analysis is the lack of site records for most of the resources.

Not included in Table 4.1 or the evaluations which follow are those sites now recorded and assessed as prehistoric resources. The most obvious coterminous historical and aboriginal site is CA-RIV-653, which has been tested separately for both concerns. Other sites which have yielded historical cultural material during test excavation for assessment of prehistoric significance include CA-RIV-2754 and -2755; CA-SBR-1543, -1571, -2845, -5096/4032, -5241, -5243; and CA-ORA-817 (corresponds to PB-143, Feliz Adobe). Such artifacts should be examined and documentary sources investigated to determine whether historical items may represent potentially significant sites, or whether they are sheet trash accumulated as a result of recent use of the land for recreation, shooting, or dog training. Although there is no present evidence, it has been suggested that CA-RIV-100 and -555 (now -652 or -653) were historic Indian rancherias.

Basis for Site Evaluation

Although the CoE in consultation with the State Historic Preservation Officer are ultimately responsible for determining which properties are significant, this study was requested to provide a professional opinion about the integrity and scientific importance of the known sites. Not all of the cultural resources can be assessed because some still require subsurface testing to confirm their locations, evaluate their integrity, and ascertain their cultural context and complexity. Some are buried, and no surface evidence can be observed.

To the extent possible, therefore, the sites have been evaluated according to the criteria for eligibility to the National Register. The legal criteria defined for significance are important because impacts to cultural resources which are included in, or eligible for, the NRHP must be considered whenever such properties are affected by a Federal undertaking. The impacts and mitigating measures are then coordinated with the SHPO and Advisory Council for Historic Preservation as appropriate. These criteria have been defined as follows:

> The significance of the historical resources present within the study area hinges on their eligibility to the NRHP, as defined in 36 CFR 60.4. These criteria state that:
>
> The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, and structures

> that possess integrity of location, design, setting, materials, workmanship, feeling and association, and:
>
> (A) That are associated with events that have made a significant contribution to the broad patterns of our history; or
>
> (B) That are associated with the lives of persons significant in our past; or
>
> (C) That embody the distinctive characteristics of a type, period, method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack distinction; or
>
> (D) That have yielded, or may be likely to yield, information important to prehistory or history [36 CFR 60.4].

The scientific significance of individual cultural resources is best judged with reference to a broad, regional context. This is because individual sites, or even arrays of sites from a single locality cannot reflect the full range of cultural patterning present in a particular region (Schiffer and Gumerman 1977). Such criteria as representativeness and specific research value are relevant aspects of a site's significance. A knowledge of site structure, content, and integrity is required to evaluate research potentials through the linkage of available classes of data with realistic research questions and domains.

Assessing scientific significance thus involves the examination of a large array of possible articulations between data and research issues--issues which might include studies of chronology, technology, subsistence, architecture, settlement patterns, exchange systems, ethnic affiliations, demography, and other research domains in the historical period.

An important consideration when evaluating a site's potential to yield significant information is the integrity of its deposits and features. During this study and previous investigations prior impacts were noted. However, research potentials may be identified even in severely disturbed site contexts; for example, elements of an impacted site may still provide valuable data on architecture, such as foundations, and thus all sites require careful assessment (Arnold et al. 1987).

In addition to scientific significance, historical cultural resources may possess public and ethnic values. For instance, persons associated with a particular site (or their descendants) may retain strong connections with that place through memories or folklore. The importance of this aspect of significance lies not only in the strength of these associations as they contribute to broad patterns of history,

but also in the valuable yet very ephemeral source of information such memories represent. As well, cultural resources may have broader public significance insofar as they can serve to educate the general populace about important aspects of national, state, and local history.

The scientific or research significance is approached at two levels:

1. Does the site contain the data needed, in a condition of integrity, to address important research questions?, or

2. If the site does not meet the criteria by itself, does it contain data which, when considered together with information from other sites, contribute to scientific research?

Data which the sites must contain to satisfy the criteria for significance fall within broad themes or domains which may relate to human behavior, factors which influence human behavior, or to topics concerned with improving the archaeologist's ability to generate information about human behavior. Within each of the domains discussed in Chapters 2 and 3, a number of questions were advanced which merit investigation. These were purposefully formulated to address a wide range of cultural resources with varying conditions and degrees of disturbance, of different age and complexity, diverse functions and ethnic/national associations. Classes of archaeological data most relevant to the questions posed include architectural information, derived from building materials, setting, function or patterning of structures on the land, and construction practices; ceramic and glass artifacts, particularly sensitive indicators of chronology, diet, ethnicity, economic scaling, and participation in market systems; and faunal remains, which may illustrate subsistence and procurement patterns, measures of self-sufficiency, and persistence of traditional or ethnic customs. Sites, structures, or activity areas related to ceramic or dairy enterprises would be valuable for studies in industrial archaeology, a topical area which has been only rarely addressed in southern California; related data categories include the composition of the labor force, nature of capital formation, the flow and processing of raw materials, marketing patterns, the spatial patterning of the facilities, and the role of the enterprise in the overall development of Prado Basin and the regional economy.

It is emphasized that certain sites may be significant even if no physical remains are present above or below the surface, if the data needed to satisfy the research requirements may be acquired by methods other than archaeological.

In order to formulate an opinion about potential significance according to the criteria for nomination to the NRHP, three categories of information were reviewed for each site: preliminary archival research already conducted (Langenwalter and Brock 1985; Greenwood et al. 1987; etc.), census data, field visits, research problems, and integrity. There are 10 primary research problems that are applicable to the resources in this study:

1. Chronology - data which provide temporal control;

2. Subsistence - material evidence of food procurement, preparation, and diet, shifts between cattle and sheep, measures of self-sufficiency, role of dairy animals, and the persistence of traditional customs;

3. Material Culture - indicators of chronology, diet, ethnicity, and economic scaling;

4. Architecture - building materials, room arrangement and function, and construction practices;

5. Demography - evidence of population numbers, composition, and distribution;

6. Ethnicity - materials, styles, or processes typical of particular groups;

7. Land Use - remains which indicate how particular resources were exploited, e.g., water, arable land, clay beds;

8. Transportation - development of systems in response to population growth and economic activities;

9. Water Systems - shifts from domestic use to irrigation to flood control; response to local and regional pressures;

10. Palynology - temporal controls, environmental reconstruction, analysis of structures and deposits.

Site Assessments

While most of the sites will require additional effort to define boundaries, confirm the presence of subsurface deposits, correlate physical remains with documentary information, determine the nature of the deposit, and evaluate integrity, tentative assessments are offered to provide the Corps with data needed for management decisions, and to suggest avenues of continuing research.

Sites which were deemed ineligible for nomination to the NRHP in 1985 were so assessed for three basic reasons. Category A sites were said to be no longer intact and the remaining content not associated with significant events or persons of the past; lacking in significant architectural remains; and not likely to yield important historic information. Category B consisted of sites believed to have "little or no physical remains." The third category of ineligible sites included those "known to have been destroyed by extensive land modification associated with construction or agricultural activity." One site (PF-3, Lt. Cook Memorial) was determined ineligible since it was less than 50 years old (Langenwalter and Brock 1985:9.12-20).

Langenwalter and Brock (1985) considered the following sites potentially eligible for nomination to the NRHP: CA-RIV-2208 (Fear

Ranch', CA-RIV-2802 (Adobe, unidentified owners), CA-RIV-1044 (Pate Ranch), and PB-102 (Rincon townsite). The criterion for significance was the presence of structural remains or artifacts. If either was present, the historical documentation was utilized to predict whether relevant temporal, social, and economic evidence might be present to address broadly developed research questions.

The data potential of the individual sites is here evaluated on the basis of the context developed in Chapters 2 and 3, i.e., whether each has yielded, or may be likely to yield, the specific classes of information required to address the explicit research questions. For historical sites, the data requirements may be acquired through archival research, archaeological excavation and analysis, technical studies such as palynology, elemental abundances in ceramic types, etc., or any combination of these approaches.

The opinions advanced about significance occasionally differ from those offered earlier because of the additional information which has accrued through the various investigations, and because of various constraints which have affected the surveys. Two examples are provided to illustrate why the evaluators have come to different conclusions with regard to certain sites.

PB-28 was interpreted by Langenwalter and Brock as the remains of a hog farm established in the mid-1940s and evaluated as ineligible to the Register (1985:8.64, 9.21). No site record was prepared, but according to the dot on their inventory map, the visible remains would appear to cover an area estimated at 50 x 50 m. When inspected during this investigation, a substantial trash deposit was found to cover an area of at least 300 x 50 m; the contents included sun colored amethyst glass and hand tooled bottle finishes, both predating the ascribed date, and a variety of domestic discards which suggest an origin other than a short-term hog feeding operation.

In the instance of CA-RIV-1039, different survey conditions and experience at sites like the Aros-Serrano Adobe have led to an alternate conclusion. When surveyed in 1983, the first investigators found only a sparse scatter of glass and ceramics amid the high Sudan grass and despite the rich history of early occupation, a minimum of 11 structures, and a pottery enterprise, it was assumed that the site was destroyed by demolition and thus ineligible to the NRHP (Langenwalter and Brock 1985:8.4-5, 9.22). When the site was revisited in 1986, it was again under cultivation and the surface could not be seen, although its historical and archaeological potential was revised upward (Greenwood et al. 1987:101). The vegetation was low during another inspection in 1987, and the following artifacts were observed:

Ceramics: California colored dinnerware (blue, yellow, orange, pale blue, aqua); whitewares; porcelain, possibly of Japanese origin, willow pattern; porcelain, hand painted over glaze;

Glass: window pane; milk glass canning jar lid; domestic pressed table ware; dairy bottle bases; base with mark of Capstan Glass Co.,

1918-1938 (Toulouse 1971:549); other fragments embossed by Owens-Illinois;

Building material: bricks embossed P.S.P.Co., L.A.xxx, embossed fire bricks, clay pipe, tile; may be either structural remains or manufactured on site.

Test excavations at the Rincon townsite, CA-RIV-2802, the Aros-Serrano and Yorba-Slaughter Adobes suggest that it may have been premature to negate the subsurface potential of the site. If present, data from the site may address questions developed about architecture (the main farmstead and outbuildings, three frame residences occupied by Hispanic-surname families), dry farming, relationship of the settlement to the nearby town of Rincon, cultural materials of a prosperous Anglo family, and the manufacture of brick, tile, and pipe.

The NRHP eligibility of 201 cultural resources documented during this study is evaluated in relation to the various considerations discussed above. Table 4.2 provides data regarding research domains that might be addressed by information present at each site, other forms of significance that are represented, and a preliminary evaluation of the site's NRHP eligibility. Unless subsequent research has been conducted, the historical background and physical description of each site are those provided by Langenwalter and Brock (1985:8.3-122). Prior impacts to each resource are also detailed. Since the significance of many archaeological sites cannot be evaluated adequately from surface observations alone, several sites will require additional assessment should planned developments threaten them with impacts.

Summary

The number of historical resources for the Prado Basin has increased with every cultural resource investigation. This study is no exception, since the documentary research disclosed a number of potential sites which may still be present in the vicinity of the Yorba-Slaughter Adobe, near Chino Creek. Although these and other resources mentioned in Chapter 3 may not be manifest in surface remains at this time, their discovery in the archives is indicative of the complexity and further potential of historical remains within the basin. The number of historical resources determined or believed to be eligible for the NRHP has also increased as the data bank has expanded. Of the 201 historical sites summarized in Table 4.2, the following are already listed on the NRHP or have been evaluated as eligible for nomination:

CA-RIV-653	Bandini-Cota Adobe
CA-RIV-2802	Adobe
CA-RIV-3372	Rincon Cemetery
CA-SBR-2317	Yorba-Slaughter Adobe
CA-SBR-2778	Aros-Serrano Adobe
PB-100	Prado Dam
PB-102	Town of Rincon (including PB-89)

The opinions expressed about NRHP eligibility in Table 4.2 are, in most cases, tentative and subjective. At least 42 additional sites are

Table 4.2.
Data Potential, Integrity, and Eligibility of Cultural Resources

Site Designation	Data Potentials	Prior Impacts	Integrity	NRHP Eligibility*
CA-RIV-653-H	C, S, MC, A, D, LU, P	E	G	E
CA-RIV-1039	C, S, MC, A, D, LU, P	D, G, I	G	PR
CA-RIV-1044	C, S, MC, A, D, LU, P	D, G, I	G	PR
CA-RIV-2203	C, S, MC, A, D, LU, P	D, E, G, I	G	PR
CA-RIV-2204	C, S, MC, A, D, LU, P	D, E, G, I	G	PR
CA-RIV-2778	C, S, MC, A, D, LU, P	D, E, G, I	E	E
CA-RIV-2802	C, S, MC, A, D, P	D, E, G, I	E	E
CA-RIV-3372	MC, C, LU, D, E	-	E	E
CA-RIV-3508-H	A, MC, D, LU	D, G	F	NE
CA-RIV-3693-H	A, MC	-	E	PR
CA-RIV-3694-H	A, MC, D	D, I	G	PR
CA-RIV-3740-H	A, MC	D, I	F	ID
CA-SBR-1571-H	C, S, MC, A, D,	D, I	F	ID
CA-SBR-2317	C, S, MC, A, D, P	G	E	E
CA-SBR-5573-H	A, MC, S, LU	D	G	PR
CA-SBR-6024-H	-	D	P	NE
CA-SBR-6025-H	-	D, I	G	NE
CA-SBR-6026-H	-	D, I	G	NE
SAR-H2C	A, LU	I	G	NE
PF-3	-	-	E	NE
PF-4	-	D, G	P	ID
PB-1	-	D, I	P	ID
2	-	D, I	P	ID
3	-	D, I	P	ID
4	-	D, I	P	ID
5	-	D, I	P	ID
6	-	D, I	P	ID
7	-	D	P	ID
8	-	D	P	ID
9	-	D, I	P	ID
10	-	D	P	ID
11	A, MC, D, LU, P	D, I	G	PR
12	-	D, I	P	ID
13	-	D, I	P	ID
14	-	D, I	P	ID
15	-	D, I	P	ID
16	-	D, I	P	ID
17	-	D, I	P	ID
18	-	D	P	ID
19	A, MC, D, LU, C, P	D	P	PR
20	A, MC, D, LU, C, P	D, I	G	PR

Table 4.2. (continued)

Site Designation	Data Potentials	Prior Impacts	Integrity	NRHP Eligibility*
PB-21	-	D	P	ID
22	-	D	P	ID
23	-	D	P	ID
24	-	D, I	P	ID
25	-	D, I	P	ID
26	A, MC, D, LU, C, P	D	G	PR
27	-	D	P	ID
28	A, MC, D, LU, C, P	D	G	PR
29	MC, C	D	F	ID
30	MC, C	D	F	ID
31	MC, C	D	F	ID
32	-	D, I	P	ID
33	-	D, I	P	ID
34	-	D, I	P	ID
35	-	D, I	P	ID
36	-	D, I	P	ID
37	-	D	P	ID
38	-	D, I	P	ID
39	-	D	P	ID
40	A, MC, D, LU, C, P	-	E	PR
41	-	D	P	NE
42	A, MC, D, LU, C, P	D	F	PR
43	-	D	P	ID
44	-	D	P	ID
45	-	D	P	ID
46	-	D	P	ID
47	A, MC, D, LU, C, P	D	G	PR
48	A, MC, D, LU, C,	-	E	PR
49	-	D	P	ID
50	-	D	P	ID
51	-	D, I	P	ID
52	-	D	P	ID
53	MC, C	D, G	F	ID
54	MC, C	D	F	ID
55	A	D, G	P	ID
56	-	D	P	ID
57	A	D, G	P	ID
58	A, D, LU, C	D	F	ID
60	A, LU	D	P	ID
63	-	D	P	ID
64	-	D	P	ID
65	-	D	P	ID
66	A, MC, C, D, LU	D	G	PR
67	A, MC, C, D, LU	-	E	PR
68	-	D	P	ID

Table 4.2. (continued)

Site Designation	Data Potentials	Prior Impacts	Integrity	NRHP Eligibility*
PB-69	-	D	P	ID
70	A, MC, C, D, LU	-	E	PR
71	MC, C, LU	D	F	ID
72	A, MC, C, D, LU	-	E	PR
73	-	D	P	ID
74	-	D	P	ID
75	-	D	P	ID
76	-	D	P	ID
77	-	D	P	ID
78	-	D	P	ID
79	-	D	P	ID
80	-	D	P	ID
81	-	D	P	ID
82	-	D	P	ID
83	A, MC, C, D, LU, P	-	E	PR
84	A, MC, C, D, LU	D	E	PR
85	A, MC, C, D, LU	-	E	PR
86	A, MC, C, D, LU	-	E	PR
87	-	D	P	NE
88	-	D	P	ID
89	MC, C, D, LU	D, I	F	E
91	-	D	P	ID
92	-	D	P	ID
93	-	D	P	NE
94	-	D	P	ID
95	A, T, WS	D, I	F	ID
96	-	D, I	P	ID
97	A, T, WS	D, I	P	ID
98	-	D	P	ID
99	-	D	P	ID
100	A, WS, D, LU	-	E	E
101	-	D	P	ID
102	A, MC, C, LU, D, P, T, WS, S, E	D, I	G	E
103	A, MC, C, LU, D	G, I	P	ID
104	-	D	P	ID
105	-	D	P	ID
106	A, MC, C, LU, D	D	G	PR
107	-	D, I	P	ID
108	-	D	P	ID
109	-	D	P	ID
110	-	D	P	ID
111	-	D	P	ID
112	-	D, I	P	ID
113	-	D	P	ID

Table 4.2. (continued)

Site Designation	Data Potentials	Prior Impacts	Integrity	NRHP Eligibility*
PB-114	-	D, G	P	ID
115	A, MC, C, LU, D	D	F	ID
116	-	D	P	ID
117	-	D	P	ID
118	-	D	P	ID
119	-	D	P	ID
120	-	D	P	ID
121	-	D	P	ID
122	-	D	P	ID
123	-	D	P	ID
124	-	D	P	ID
125	-	D	P	ID
126	-	D	P	ID
127	-	D	P	ID
128	-	D	P	ID
129	-	D	P	ID
130	-	D	P	ID
131	-	D	P	ID
132	-	D	P	ID
133	-	D	P	ID
134	-	D	P	ID
135	-	D	P	ID
137	A, MC, C, D, LU	D	G	PR
138	-	D	P	ID
139	-	D	P	ID
140	A, MC, C, LU, WS	D	G	PR
141	A, WS, LU, D	D, I	G	PR
142	-	D	P	ID
143	-	D, G	P	ID
144	-	D	P	ID
145	A, MC, D, LU	D	F	ID
146	-	D, G	P	ID
147	-	-	G	ID
148	A, MC, C, D, LU, WS T, E, S	ND	ND	E
149	A, MC, C, LU, S	D	ND	E
150	A, MC, C, LU, S	D	ND	E
151	A, MC, C, LU, S	D	ND	E
152	A, MC, C, LU, S, WS	D	ND	E
153	A, MC, C, D, LU, WS	D	ND	E
154	A, MC, C, LU, WS	D	ND	PR
155	A, MC, C, LU	ND	ND	PR
156	A, MC, C, LU, WS	ND	ND	PR
157	A, MC, C, LU	ND	ND	PR
158	A, MC, C, LU	ND	ND	ID

Table 4.2. (continued)

Site Designation	Data Potentials	Prior Impacts	Integrity	NRHP Eligibility*
PB-159	A, MC, C, LU, D, WS	ND	ND	PR
160	A, MC, C, WS	ND	ND	ID
161	A, MC, C, LU, WS	ND	ND	PR
162	A, MC, C, LU	ND	ND	PR
163	A, MC, C, LU, D, WS	ND	ND	PR
164	A, MC, C, LU	ND	ND	ID
165	A, MC, LU	ND	ND	ID
166	A, MC, LU	ND	ND	NE
167	A, MC, LU	D	ND	ID
168	A, MC, LU	ND	ND	ID
169	A, LU	D	ND	ID
170	A, WS, C, LU	ND	ND	ID
171	A, MC, LU, S	SOME D	E	PR
172	A, MC, LU	D	ND	ID
173	A, LU	ND	ND	ID
174	A, MC	ND	ND	ID
175	A, LU, S	ND	ND	PR
176	A, LU	ND	ND	ID
177	A, LU, S	ND	ND	ID
178	A, LU, S	D	ND	ID
179	A, MC, D, C	D	ND	ID
180	A, MC, D, C	D	ND	ID
181	A, MC, D, C	D	ND	ID
182	A, MC, D, C	D	ND	ID
183	A, LU, S	ND	ND	ID
184	A, LU, S	D	ND	PR
185	A, MC, C, WS	ND	ND	PR
186	A, LU, S	ND	E	PR

Key:

Data Potentials:
- = Absent or unknown; A = Architecture; MC = Material culture; C = Chronology; D = Demography; LU = Land use; WS = Water system; T = Transportation; E = Ethnicity; S = Subsistence; P = Palynology.

Prior Impacts:
D = Demolished/dismantled; E = Eroded; G = Graded; I = Inundated/buried; ND = No data.

Integrity:
E = Excellent; G = Good; F = Fair; P = Poor; ND = No data.
* = Statements on integrity are for the most part derived from Langenwalter and Brock (1985)

Table 4.2. (continued)

NRHP Eligibility:
E = Recommended for eligibility or already listed on the NRHP;
PR = Probably eligible; ID = Inadequate data; NE = Not eligible.

regarded as potentially eligible on the basis of observed remains with the potential to address questions of importance to the region. Six newly identified sites, presently known only from documentary sources (PB-148 through -153) represent some of the earliest historical resources in Prado Basin and may be significant historically, even if no physical remains survive. Ten sites are clearly not eligible, either because they are too recent (PB-3), or because they have been tested and found to lack subsurface remains (e.g., PB-87 and -93). The remaining sites were not evaluated because of inadequate data. Many are currently buried under sediment or under water; for others, structures--some of considerable age--were demolished or relocated when Prado Dam was built. Although it is certainly possible that obscured, submerged, or cleared sites may lack integrity and significant remains, the test excavations conducted to date suggest that it would be premature to assume that they are all necessarily destroyed.

5. RECOMMENDATIONS

Some general comments and recommendations are offered to the Corps of Engineers (CoE) for management planning purposes and consideration in developing a mitigation program.

On the basis of existing information, the historical resources within Prado Basin appear to meet Criteria A, B, C, and D for nomination to the NRHP as a district. Contributing themes include exploration, settlement, architecture, industry, and engineering. Periods represented range from the 1770s (potential sites; none known to date), through the years of land grant ranchos, Euroamerican settlement, into the early 1940s. Not all of the individual structures or sites may be determined to be contributing elements, and thus require mitigation of any impacts, but the basin as a whole comprises a recognizable entity whose history and archaeological remains have already contributed important information about the broad patterns of life in southern California and have high potential to illuminate events, patterns, and processes still further. The historical resources are closely related both geographically and historically.

There is a need to inventory all surviving structures within the Prado Basin; many private properties still occupied, or business facilities such as the glass block "moderne" dairies, may prove to be architecturally significant either individually or as thematic districts. The rate of loss in vernacular architecture enhances the value of those which survive; alternatives for management include preservation, relocation, or documentation.

It is recommended that preservation activities should be undertaken promptly, even before NRHP determinations are sought. For example, the stone structure within CA-RIV-1044--the only one known to be extant in the study area--should be fenced because it is in a field currently used for grazing and camping, with heavy equipment and vehicles present.

The CoE may wish to address certain cultural resources which have not been assessed as eligible for the NRHP. The McCarty ranch house, the milk house at CA-RIV-3508-H, and the Lt. Cook Memorial, for example, would be good candidates for relocation because of their architectural, historical, and interpretive values. Other sites, such as the Serrano Bridge, may not be eligible for lack of integrity, but their setting and appearance warrant photographic recording as elements within broader systems, in this case, the transportation network.

The discussion of palynology emphasizes that such analyses should be conducted on a broad, comparative basis within an interdisciplinary research design, and not as a site-specific adjunct to a few individual sites. Samples should be collected from a wide range of sites, including some which will not be otherwise examined; once chronological profiles of pollen spectra are identified, they can be used as baseline data across the basin. Samples should be analyzed from all of the known

adobes, and the method has directly applicable value to interpreting the various phases of construction and remodeling at the Yorba-Slaughter Adobe.

Other technical studies should also be applied across the full range of historical sites, for both baseline and comparative data. Examples include elemental analysis of all Chinese ceramics and the Southern California Brown Wares, regardless of site provenience. Since the archaeological contexts are dated with reasonable confidence, the information has broad application and research implications for the entire state.

Although each phase of field investigation has been accompanied by historical research, the efforts have been largely focused on site-specific questions directly relevant to the archaeological concerns. The research, in every case, has been fruitful to the extent that new leads, additional sites, and associations of the specific resources to broad themes have been revealed. Some of these broader topics or issues merit independent, region-wide studies since they relate to major industries, or are represented by whole groups of sites, some or most of which will not be examined archaeologically. The following are examples of such studies which could be approached at a general level from historical sources and illustrated by reference to carefully selected archaeological examples; each integrates many of the broad research objectives.

The ceramic industry: sources and composition of clays; extraction and production; employment; relation to the major centers at McKnight, Goat Ranch, and the Alberhill District; local enterprises at La Olla, Prado, and Rincon; use of local raw materials in the manufacture of Indian pottery; application of Mexican traditions.

The dairy industry: early beginnings; cheese and creamery enterprises; role of large companies such as Excelsior; effects on land ownership; employment and rental housing at Prado; traditional patterns of building arrangement and architecture; national origins within the industry; the glass brick dairies.

Architectural evolution: distribution of all known adobes; changes in construction and form through time; introduction of wood frame building and association with Euroamerican settlement; symbol and status as reflected in building materials, siting, and ornamentation; surviving examples of rural/vernacular style; local or regional innovations or adaptations.

Water systems: location and distribution of springs, wells, canals and ditches; litigation concerning water rights; shift in emphasis from domestic use to irrigation to flood control. From the ranchos to and including Prado Dam, the development and control of water has had a profound influence on human and natural events.

Such regional studies as those suggested above, or transportation networks, and even site clusters will need linkages to places or events outside of the boundaries of Prado Basin as defined topographically or

as a planning unit. The contour boundary of 566 feet amsl established for the purpose of assessing an archaeological district is an arbitrary one with no necessary correlation with social or economic systems; it appears, in fact, to bisect the occupation and land use pattern surrounding the Yorba-Slaughter Adobe and early settlement in this immediate area, and to exclude from consideration possible elements of the Excelsior Dairy, although its main establishment, various facilities, and workers' housing units are within the Rincon/Prado townsite. It would be important to compare the history, culture, economy, and physical remains of Rincon with those of Auburndale (10 separately recorded PB- numbers), although the sites associated with the latter range from 520-630 feet in elevation and would thus be excluded in a strict interpretation of the study area. Reference to the events at Colony Tract also fall partly outside of the project boundaries. Some flexibility, therefore, is urged in developing future test or mitigation programs so that effective cultural boundaries can be considered.

Programs in archaeology should be alert to the potential for co-terminous prehistoric and historical sites, and for Indian sites of the historic period. Census data, other documents, and maps have provided abundant evidence for a substantial Indian population in the basin well into the 1880s; even aside from Guapa, one rancheria has been described near the Yorba-Slaughter Adobe, and most of the ranchos employed Indian labor (Greenwood, Foster, and Duffield 1988:13-19). Contact period sites should be sought, as there is very little published information about the nature, speed, and direction of acculturation.

Because of the potential for undiscovered sites and known sites presently not visible, it is suggested that the Corps of Engineers should consider monitoring during grubbing, earthmoving, or other maintenance and construction activities which might expose deposits now covered with sediments, water, or dense vegetation. At the Ashcroft Ranch (CA-RIV-1039), for example, two different survey efforts failed to locate any surface remains and the site was thought to lack archaeological potential, but a visit during this investigation, at a time when the vegetation was low, revealed an abundance of cultural material.

It is recommended that archaeological site record forms be completed for all locations where cultural materials have been, or will be, observed. During this investigation, it was not possible to determine whether a deposit observed in the general location of PB-28 is the same as the site described only verbally by Langenwalter and Brock (1985). If there were the usual site location map and descriptions of the assemblage, it should be possible to decide whether to amend the earlier text or add an additional site to the inventory. The observed cultural materials covered a much broader area and were substantially earlier than the date ascribed to PB-28, although the location appears to be the same. A second justification for more precise mapping is that the elevation and cadastral location of a site may become very relevant in predicting impacts and developing mitigation programs. The need for formal recording is further warranted because not all sites will be tested; for those where no additional work is conducted, surface observations, precise mapping, and the identification of associated

assemblages are all the physical data which will be recovered or preserved for future research. Detailed site records can contribute much useful information about settlement pattern, site function and chronology, and other research objectives. In this sense, the inventory of historical sites is less comprehensive than the prehistoric sites, all of which have been recorded and assigned trinomial designations. For the same reason, strenuous efforts should be made to retrieve and accession all photographs made during the various episodes of field work.

The preparation of site forms will clarify for the permanent record certain confusions which have arisen over the years as various investigators have used the data. For example, ACE-SAR-H2B was originally assigned the trinomial CA-RIV-1044 (D'Altroy and Stickel 1980:24), but both numbers still appear on the inventory and tables because H2B has been carried forward as a reference to the Meredith Ranch while CA-RIV-1044 now refers to the Pate property (Langenwalter and Brock 1985:8.5, 8.46). The total of separate site numbers may be reduced if all the localities which were spatially or historically elements of the town of Rincon are subsumed within a single designation; as it is, some are separately numbered and some, like the dairy barn foundation described in Greenwood et al. (1987:79), have not been recorded at all. It is suggested that a single site number be assigned, but that the temporary field numbers (PB- or PF-) be retained to designate loci for purposes of mapping, cataloguing, or other studies.

A synonymy should be prepared, and regularly updated, of all the temporary numbers assigned trinomials, and site names which have been used by the various investigators over the years. At present, it would be very difficult for either managers or researchers to correlate site descriptions and field numbers with trinomials more recently assigned. This could be achieved by adding another file to the Historic Records Database (Brock 1989). The latter should also be revised and updated as new information is gathered.

Tabular presentations such as Tables 4.1 and 4.2 are misleading to the degree that a site name or estimated period of occupation is based upon contemporary observation or ownership derived from acquisition records. Many which are known only in their twentieth century manifestations actually were first owned and developed much earlier, e.g., PB-170, included in the data base as the property of Mary Foster (Brock 1989:17), but patented to Samuel Pine in 1878 (Hatheway 1989b:66). The problem of time depth, and the depiction of changes through time, could be overcome by developing a series of basin-wide maps which show land use at each of the key periods: pre-Spanish contact period, Spanish mission period, Mexican rancho period, late nineteenth Anglo-Hispanic agricultural period, World War I period, and the Depression era. The early periods are underrepresented at present in both the historical research and the archaeological inventory; broadening the overviews of land use will greatly enhance the ability to contrast changes and stabilities through time, and to evaluate functionally specific resources.

Spatial, as well as chronological, limits should also be extended. Certain sites have been excluded from analysis because they fall partly or wholly outside of the taking line, or because the CoE acquired only a portion of the parcel. The arbitrary definition of the study area as bounded by the 566-foot contour does not always conform to property ownership and social or economic interaction spheres, or encompass the effective patterns of water development, transportation networks, or other systems.

As part of long-range planning, various interpretive models are suggested as a way to disseminate the recovered information to the public in a form which is educational, readily comprehended, and compatible with the public use/recreational aspect of the basin. Examples might include the evolution of settlement patterns in Prado Basin through selected periods of time; early and modern water systems; differing styles of the adobes; function of the dam; appearance of Rincon/Prado at key periods; various phases of development at the Yorba-Slaughter Adobe.

REFERENCES CITED

Arnold, J. E., A. Q. Duffield, R. S. Greenwood, R. P. Hampson, and T. M. Van Bueren
1987 Archaeological Resources of the Seven Oaks Dam Project, Upper Santa Ana River Locality. INFOTEC Research, Inc. and Greenwood and Associates. Submitted to the U. S. Army Corps of Engineers, Los Angeles District.

Beattie, G. W.
1923 San Bernardino Valley in the Spanish Period. Historical Society of Southern California Quarterly 12(3):10-28.

Black, E. B.
1975 Rancho Cucamonga and Dona Merced. San Bernardino County Museum Association, Redlands.

Boalich, E. S., W. O. Costello, E. Huguenin, C. A. Logan, and W. B. Tucker
1920 The Clay Industry in California. California State Mining Bureau, Preliminary Report No. 7. Sacramento.

Brock, J.
1985 Preliminary Investigations of the Rincon and Spillway Cemetery Sites in the Prado Basin. ECOS Management Criteria, Inc. Submitted to the U. S. Army Corps Engineers, Los Angeles District.

1987 A Reanalysis of Proton Magnetometer Data from Rincon Cemetery. Archaeological Advisory Group. Submitted the Los Angeles District, U.S. Army Corps of Engineers, Los Angeles.

1989 Historic Records Database: Prado Basin Real Estate Acquisitions Files. Archaeological Advisory Group. Submitted to the Los Angeles District, U.S. Army Corps of Engineers, Los Angeles.

Brumgardt, J. R.
1976 From Sonora to San Francisco Bay: The Expeditions of Juan Bautista de Anza, 1774-1776. Historical Commission Press, Riverside.

Bushwell, A. M.
1898 San Bernardino County Directory. Kingsley-Barnes-Neuner Co., Los Angeles.

Caballeria, Rev. Father J.
1902 History of San Bernardino Valley: From the Padres to the Pioneers, 1810-1851. Times-Index Press, San Bernardino.

Camarillo, A.
1979 Chicanos in a Changing Society. Harvard University Press, Cambridge.

Carosso, V. P.
1951 1830 - 1895: The California Wine Industry, A Study of the Formative Years. University of California Press, Berkeley.

Castillo, D. R. G.
1979 The Los Angeles Barrio 1850-1890, A Social History. University of California Press, Berkeley.

Cleland, R. G.
1944 From Wilderness to Empire: A History of California 1542-1900. Alfred A. Knopf, New York.

Cooper, E.
1968 Aqueduct Empire. Arthur H. Clark, Glendale.

D'Altroy, T. D., and E. G. Stickel
1980 Santa Ana River and Santiago Creek: A Cultural Resources Study. Environmental Resources Group. Submitted to the U. S. Army Corps of Engineers, Los Angeles District.

Desborough, C. F.
n.d. Rincon's One Hundred Years. Ms. on file, Heritage Room, Corona Public Library, Corona, California.

Dietrich, W. F.
1923 The Clay Resources and the Ceramic Industry of California. Division of Mines and Mining Bulletin No. 99. Department of Natural Resources, San Francisco.

Elliott, W. W.
1883 Illustrated History of San Bernardino and San Diego Counties. 1965 reprint, Riverside Museum Association, Riverside.

Forstner, W. T., C. Hopkins, C. Naramore, and L. H. Eddy
1906 Structural and Industrial Materials of California. California State Mining Bureau, Bulletin No. 38. Sacramento.

Foster, J. M., A. Q. Duffield, R. G. Hatheway, and R. S. Greenwood
1987 The McCarty Ranch: History, Architecture, and Archaeology. INFOTEC Research, Inc. and Greenwood and Associates. Submitted to the U. S. Army Corps of Engineers, Los Angeles District.

Frierman, J. D.
1982 The Ontiveros Adobe: Early Rancho Life in Alta California. Greenwood and Associates. Submitted to the Redevelopment Agency, City of Santa Fe Springs.

Gates, P. W.
1967 California Ranchos and Farms: 1846-1862. Including the Letters of John Quincy Warren of 1861, Being Largely Devoted to Livestock, Wheat Farming, Fruit Raising, and the Wine Industry. State Historical Society of Wisconsin, Madison.

Giedion, S.
1978 Space Time and Architecture. Harvard University Press, Cambridge.

Goldsworthy, J.
var. Survey notes, map sketches, and maps. Unpublished ms. on file, Bureau of Land Management, Riverside.

Gray, C. H., Jr.
1961 Mines and Mineral Deposits of the Corona South Quadrangle, Riverside and Orange Counties, California. Bulletin 178:60-109. California Division of Mines, San Francisco.

Greenwood, R. S., and J. M. Foster
1980 Cultural Resource Overview for the Serrano Substation to Mira Loma Substation Transmission Route Alternatives Corridor Right-of-Way. Greenwood and Associates. Submitted to Southern California Edison, Rosemead, California.

1987 The Rincon Townsite: Cultural Resource Investigation. INFOTEC Research, Inc. and Greenwood and Associates. Submitted to the Los Angeles District, U. S. Army Corps of Engineers, Los Angeles.

Greenwood, R. S., J. M. Foster, and A. Q. Duffield
1987 Historical and Archaeological Investigation at the Aros-Serrano Adobe, Prado Basin. Greenwood and Associates. Submitted to the Los Angeles District, U.S. Army Corps of Engineers, Los Angeles.

1988 Historical and Archaeological Study of the Yorba-Slaughter Adobe. INFOTEC Research, Inc. and Greenwood and Associates. Submitted to the Los Angeles District, U. S. Army Corps of Engineers, Los Angeles.

Greenwood, R. S., J. M. Foster, A. Q. Duffield, and J. F. Elliott
1987 Historical and Archaeological Evaluation: Rincon Townsite and Environs. INFOTEC Research, Inc. and Greenwood and Associates. Submitted to the Los Angeles District, U. S. Army Corps of Engineers, Los Angeles.

Greenwood, R. S., J. M. Foster, and R. Wlodarski
1980 Cultural Resource Overview for the Devers Substation to Serrano Substation Transmission Route Alternatives Corridor Right-of-Way. Greenwood and Associates. Submitted to Southern California Edison, Rosemead, California.

Greenwood, R. S., J. D. Frierman, and J. M. Foster
1983 The Bandini-Cota Adobe, Prado Dam, Riverside County, California. Greenwood and Associates. Submitted to the Los Angeles District, U. S. Army Corps of Engineers, Los Angeles.

Gregory, M. M., and J. Schoenwetter
1987 Palynology of the Aros-Serrano Adobe: Pilot Study Report. In The Aros-Serrano Adobe, by R. S. Greenwood, J. M. Foster, and A. Q. Duffield, pp. 135-138. Greenwood and Associates. Submitted to the Los Angeles District, U. S. Army Corps of Engineers, Los Angeles.

1988 Palynological Analysis of CA-RIV-2802 and Rincon Townsite. In The Rincon Townsite: Cultural Resource Investigation, by R. S. Greenwood and J. M. Foster, pp. 155-175. INFOTEC Research, Inc. and Greenwood and Associates. Submitted to the Los Angeles District, U.S. Army Corps of Engineers, Los Angeles.

Gunther, J. D.
1984 Riverside County, California, Place Names: Their Origins and Their Stories. Rubidoux Printing Company, Riverside.

Gust, S. M.
1982 Faunal Analysis and Butchering. In The Ontiveros Adobe: Early Rancho Life in Alta California, by J. D. Frierman, pp. 101-144. Greenwood and Associates. Submitted to the Redevelopment Agency, City of Santa Fe Springs.

Hampson, R. P., R. S. Greenwood, and M. T. Swanson
1990 The Billingsley Dairy: A Late Enterprise in the Prado Basin. Greenwood and Associates and INFOTEC Research, Inc. Submitted to the Los Angeles District, U.S. Army Corps of Engineers, Los Angeles.

Hancock, H.
1853 Field Notes of Survey on Standard Parallel between Townships 4 and 5 South of the San Bernardino Base. Ms. on file, Bureau of Land Management, Riverside.

1858 Field Notes of the Final Survey of the Rancho Jurupa. Ms. on file, Bureau of Land Management, Riverside.

Hatheway, R. G.
1989a The Pomona-Rincon Road and its Place in the Regional Transportation Network. Greenwood and Associates and INFOTEC Research, Inc. Submitted to the Los Angeles District, U.S. Army Corps of Engineers, Los Angeles.

1989b Archival Research and Site Documentation, Prado Basin, California. Greenwood and Associates and INFOTEC Research, Inc. Submitted to the Los Angeles District, U.S. Army Corps of Engineers, Los Angeles.

Hatheway, R. G., and T. Zimmerman
1989 History of the Anaheim Union Water Company Cajon Canal. Greenwood and Associates and INFOTEC Research, Inc. Submitted to the Los Angeles District, U.S. Army Corps of Engineers, Los Angeles.

Historic American Buildings Survey (HABS)
1934 The Yorba/Slaughter Adobe, Chino - San Bernardino County - California. Survey No. Cal. 333.

1936 The Cota House, Prado - Riverside County - California. Works Progress Administration Official Project No. 65-1715. Survey No. Cal 332.

Johnston, B. E.
1962 California's Gabrielino Indians. Southwest Museum, Los Angeles.

King, J.
1984 Vejar Adobe Archaeology, Walnut, California. Scientific Resources Surveys. Ms. on file, Greenwood and Associates, Pacific Palisades, California.

Kirker, H.
1973 California's Architectural Frontier: Style and Tradition in the Nineteenth Century. Peregrine Smith, Santa Barbara.

Kirkish, A.
1972A Preliminary Site Report on the Salvage Excavations at the Bovine Site 4-RIV-555. Ms. on file, Riverside County Parks Department.

Langenwalter, P. E., II, and J. Brock
1985 Phase II Archaeological Studies of Prado Basin and the Lower Santa Ana River. ECOS Management Criteria, Inc. Submitted to the Los Angeles District, U. S. Army Corps of Engineers, Los Angeles.

Lauter, G.
1987a Ground Truthing Excavations at Selectted Anomalies Pate Mesa (SBr-1543) San Bernardino County. Los Angeles District, U.S. Army Corps of Engineers, Los Angeles.

1987b Ground Truthing Excavations at Selected Anomalies PB-87, San Bernardino County. Los Angeles District, U.S. Army Corps of Engineers, Los Angeles.

Leonard, N. N. III
1975 Santa Ana River Project Description and Evaluation of Cultural Resources, and Appendices: Field Data, by Matthew C. Hall. Archeological Research Unit, University of California, Riverside. Submitted to the Los Angeles District, U. S. Army Corps of Engineers, Los Angeles.

Mabry, T. N. and R. D. Douglas
1979 Paleontological, Archaeological and Historical Resources, Chino Hills, County of San Bernardino, California. Archaeological Planning Collaborative. Ms. on file, Institute of Archaeology, University of California, Los Angeles.

Mason, W. M.
1986 Alta California During the Mission Period, 1769-1835. Masterkey 60[2,3]:4-14.

Mason, R. D., N. A. Whitney-Desautels, R. M. Beer, P. E. Langenwalter, R. G. Hatheway, and W. H. Bonner
1987 Archival Research and Remote Sensing Investigations Concerning Reported Cemeteries and Isolated Graves in the Santa Ana River Project Area. Scientific Resources Survey, Huntington Beach California. Submitted to the Los Angeles District, U.S. Army Corps of Engineers, Los Angeles.

McIntosh, Flagg & Walker
1889 San Bernardino City and County Directory. Flagg and Walker, San Bernardino.

Milliken, J.
1893-1895 San Bernardino County Directory. James Milliken, no place.

Minter, W.
1878 Survey Notes of October, 1878, Jurupa Rancho. Microfiche on file, Bureau of Land Management, Desert District Office, Riverside.

F. L. Morrill & Co.
1887 San Bernardino City and County Directory. Express Job Printing, Los Angeles. On file, San Bernardino County Library.

Munoz, J.
1982 A Partial Index to the Mission San Gabriel Baptism, Marriage, and Death Registers. Archaeological Resource Management Corporation. Submitted to the Los Angeles District, U.S. Army Corps of Engineers, Los Angeles.

Newmark, H.
1916 Sixty Years in Southern California: 1853-1913. 1984 edition, Dawson's Book Shop, Los Angeles.

Orange County California Genealogical Society (OCGS)
1969 Saddleback Ancestors: Rancho Families of Orange County, California. Orange County California Genealogical Society, Orange.

Ormsby, W. L.
1950 Articles written for the New York Herald in 1858. California Highways: 45. California State Division of Highways.

Patterson, T.
1986 Prado Park Shows Few Signs of the Area's Lively History. Riverside Press Enterprise, June 27.

Polk, R. L.
1888 California State Gazeteer and Business Directory. R. L. Polk and Co., San Francisco.

The Press Enterprise (Riverside)
1972 Archeologists May Have Found Site of Early Prado Basin Village. September 7, F:1.

Rensch, H. E., and E. G. Rensch
1932 Historic Spots in California: The Southern Counties. Stanford University Press, Stanford.

Reynolds, S., and F. Eldridge
1986 Corona California Commentaries. Heritage Committee of the Friends of the Corona Public Library, Corona, California.

Reynolds, W. P.
1869 Field Notes of the Obsolete Survey of the Rancho Jurupa. Ms. on file, Bureau of Land Management, Riverside.

Richman, I. B.
1965 California Under Spain and Mexico. Cooper Square Publishers, New York.

Rios-Bustamante, A.
1986 The Barrioization of Nineteenth-Century Mexican Californians: From Landowners to Laborers. Masterkey 60 [2,3]:26-35.

Robinson, W. W.
1953 The Story of San Bernardino County. Pioneer Title Insurance Company, San Bernardino County, California.

1979 Land in California. University of California Press, Berkeley.

San Bernardino, County of
1873-1874 Assessors Roll. On file, San Bernardino Public Library.

var. Deeds. Uncatalogued documents on file, Lena/Rialto Street Warehouse, San Bernardino.

var. Homestead Records. Uncatalogued documents on file, Lena/Rialto Street Warehouse, San Bernardino.

var. Possessory Claims. Uncatalogued documents on file, Lena/Rialto Street Warehouse.

var. Water Records. Uncatalogued documents on file, Rialto Street Warehouse, San Bernardino.

Sanchez, F. A.
1986 Rancho Life in Alta California. Masterkey 60[2,3]:15-25.

Schiffer, M. B. and G. J. Gumerman
1977 Conservation Archaeology, A Guide for Cultural Resource Management Studies. Academic Press, New York.

Schoenwetter, J. and A. E. Limon
1982 Palynological Study of the Slusher Estate. In The Ontiveros Adobe: Early Rancho Life in Alta California, by Jay D. Frierman, pp. 181-212. Greenwood and Associates. Submitted to the Redevelopment Agency, City of Santa Fe Springs.

Schwartz, S.
1988 Management of Regional Research in the Prado Basin. Paper presented at the Annual Conference of the Society for Historical Archaeology, Reno.

Scientific Resources Surveys, Inc. (SRS)
1980 Test Excavations on Sites ORA-817, ORA-818, ORA-819, ORA-820 and Historical Resources Located on the Santa Ana Valley Irrigation Company (SAVI) Property in the Horseshoe Bend Area of the County of Orange. Submitted to the Santa Ana Valley Irrigation Company, Orange.

1987 Archival Research and Remote Sensing Investigations Concerning Reported Cemeteries and Isolated Graves in the Santa Ana River Project Area. Submitted to the Los Angeles District, U.S. Army Corps of Engineers, Los Angeles.

Sharp, R. P.
1976 Geology Field Guide: Southern California. Geology Field Guide Series. Kendall/Hunt, Dubuque, Iowa.

Sleeper, J.
1969 The Many Mansions of Jose Sepulveda. Pacific Coast Archaeological Society Quarterly. 5[3]:1-38.

Stephenson, T. E.
1963 Don Bernardo Yorba. Glen Dawson, Los Angeles.

Sutherland, J. C.
1935 Geological Investigation of the Clays of Riverside and Orange Counties, Southern California. California Journal of Mines and Geology 1[31]:51-87.

Swanson, M. T., and R. G. Hatheway
1989a The Dairy Industry of the Prado Basin. Greenwood and Associates and INFOTEC Research, Inc. Submitted to the Los Angeles District, U.S. Army Corps of Engineers, Los Angeles.

1989b The Prado Dam and Reservoir, Riverside and San Bernardino Counties, California. Greenwood and Associates and INFOTEC Research, Inc. Submitted to the Los Angeles District, U.S. Army Corps of Engineers, Los Angeles.

Theodoratus Cultural Research, Inc. (TCR)
1983 The Century of El Rincon: Historical Synthesis of the Bandini-Cota Adobe. Submitted to the U. S. Army Corps of Engineers, Los Angeles District.

Tobey, R. C., T. D. Suss, and L. Burgess
1977 Historical Resource Survey, Prado Flood Control Basin, San Bernardino and Riverside Counties, California. Department of History, University of California, Riverside. Submitted to the U. S. Army Corps of Engineers, Los Angeles District.

Toulouse, J. H.
1971 Bottle Makers and Their Marks. Thomas Nelson, New York and Camden.

U.S. Army Corps of Engineers (CoE)
1985 Preliminary Dam Basin Land Use Analysis Report: Santa Ana River Main Stem Including Santiago Creek. Los Angeles District, Los Angeles.

Van Horn, D. M.
1983 The Ramon Peralta Adobe. Archaeological Associates. Submitted to C. Robert Langslet and Son, Orange County.

Vickery, J. C.
1977 Defending Eden: New Mexican Pioneers in Southern California, 1830-1890. Department of History, University of California, Riverside and the Riverside Museum Press, Riverside.

VTN
1975 Water Resources Development in California. Submitted to U. S. Army Corps of Engineers, San Francisco and Sacramento Districts.

Whitney, A. M.
1962 Chino Valley: Where Everything Grows, 1887-1962. Everything Grows, 1887 - 1962. Adolph M. Whitney, Chino, California.

Wilke, P. J.
1971 Bandini-Cota Adobe (Cota Adobe). Information on preservation of an adobe structure in the Prado Basin. Unpublished ms. on file, Riverside County Parks Department.

Maps

1856 Henry Hancock, General Land Office Map T 2S, R 7W. On file, Bureau of Land Management, Riverside.

1869 (June and July) Plat of the Rancho Jurupa, Finally Confirmed to Abel Stearns. Surveyed by Wm. P. Reynolds. On file, Bureau of Land Management, Riverside.

1869 (July) Plat of the Rancho La Sierra, Confirmed to Vicente Sepulveda (shows portion T2S and T3S R7W). Surveyed by W. P. Reynolds. On file, Bureau of Land Management, Riverside.

1875 John Goldsworthy, General Land Office Map T 3S, R 7W. On file, Bureau of Land Management, Riverside.

Maps (continued)

1878 Plat of the Jurupa Rancho (shows portion of T2S R7W and land to east). Surveyed by W. P. Reynolds and William Minto; March, April, and November. On file, Bureau of Land Management, Riverside.

1904 M. L. Cook, Plat Showing Roads in Rincon Ranch. (includes T 2S, R 8-6 W, and T 3S, R 8-6 W). On file, Bureau of Land Management, Riverside.

APPENDIX A:

1850 POPULATION CENSUS: COUNTY OF LOS ANGELES (PARTIAL)

A question mark (?) indicates uncertainty in deciphering the enumerator's handwriting. Persons listed by first name only below the head of household are presumed to share the same surname. Net Worth and occupation are noted when given.

Family No.	Name	Age	Net Worth ($)	Occupation	Place of Birth
425	Ramon Corona	42	--	laborer	Mexico
	Victoria	25			Mexico
	Jesus	15	--	laborer	Mexico
	Regino	13			Mexico
	Tesefino(?)	12			Mexico
	Josefa	10			Mexico
	Jose Maria	9			Mexico
	Santiago	7			Mexico
	Guadalupe	5			Mexico
	Carmel	3			Mexico
	Concepcion	2			Mexico
	Ramona	1			Mexico
426	Innocenta Valdez	25	--	laborer	Calif.
	Cosita	21			Calif.
	Jose	9			Calif.
	Teresa	7			Calif.
	Maria	5			Calif.
427	Isaac Williams	57	10,000	grazier	Penn.
	Merced	12			Calif.
	Francisca	10			Calif.
	Francisca	5			Calif.
	Jesus Martinez	30	--	laborer	N. Mex.
	George A. Sturges	33	--	physician	New York
	Rupel B. Smith	31	--	carpenter	Virginia
	Robert Cliff	30	--	(illeg.)	England
	Arthur Rowan	46	--	millwright	England
	James Dobson	30	--	hatter	Kentucky
	William Reader	20	--	laborer	England
	Washington H. Avery	28	--	blacksmith	New York
	Santiago Cruz (?)	50	--	laborer	Mexico
	Nathan Cook	28	--	laborer	New York
	G. W. Williams	35	--	blacksmith	Penn.

Family No.	Name	Age	Net Worth ($)	Occupation	Place of Birth
428	E.B. Whitney	38	--	laborer	New York
	Mary	30			Michigan
	Sara	2			Michigan
429	Charles Christman	45	--	farmer	Kentucky
	Mary	33			S. Caro.
	George	17		laborer	Illinois
	Hestor Ann	14			Illinois
	Cemantha	10			Illinois
	Mary	8			Illinois
	Charles	6			Illinois
	Emily	5			on the road
	Ellen	1			Calif.
	Leonard Ellige	22	--	laborer	Illinois
	John M. Lewis	22	--	laborer	Illinois
	Jane	18			Illinois
	William Lewis	20	--	laborer	Illinois
430	Jose Alivios	55	--	laborer	Calif.
	Josefa	40			Mexico
	Pascual	18		laborer	Calif.
	Juan	20		laborer	Calif.
	Cornelius Dobson	35	--	laborer	N. Caro.
	Andrea	22			Calif.
	Jose	12			Calif.
(Note: #431 listed as "U.S. Barracks - Rancho Chino")					
431	Christopher Lovell	31	--	Capt USA 2 Infy	S. Caro.
	Sarah A.	22			Conn.
	Nelson H.	2			Calif.
	James W. Schureman (?)	30	--	1st Lt.US Army	N. Jersey
	Caleb Smith	25	--	2nd Lt.US Army	Virginia
	James T. Overstreet	24	--	(?) Sergeant	S. Caro.
	Dennis McCarty	35	--	soldier	Ireland
	Hiriam V. Bogart	37	--	soldier	New York
	William G. Lee	25	--	soldier	Ireland
	William Stuart	25	--	soldier	Ireland
	Hugh Burns	28	--	soldier	Ireland
	George Wm. Cole	29	--	soldier	Maryland
	Enoch Cook	33	--	soldier	Mass.
	Bowers Danforth	40	--	soldier	Mass.
	James Dempsey	37	--	soldier	Ireland
	Charles S. Fox	25	--	soldier	Ireland
	John Gilogy	34	--	soldier	Ireland
	Laurence B. Harris	31	--	soldier	Virginia
	Samuel Hains	37	--	soldier	England
	William S. Henning	25	--	soldier	Ireland
	Franklin Hoff	21	--	soldier	Penn.
	John A. Jackson	25	--	soldier	Ireland

Family No.	Name	Age	Net Worth ($)	Occupation	Place of Birth
	James Macanally	30	--	soldier	Ireland
	James Maguire	28	--	soldier	Ireland
	Thomas Maddigan	25	--	soldier	Ireland
	Lawrence Strobel	30	--	soldier	Sweden
	Rosa Lee	22	--		New York
	Margaret Gilogy	30			Ireland
	Mary	8			New York
	James	2			New York
	Mary Dempsey	25			Ireland
	Edwin V. Bogart	8			Penn.
	Homer	6			Penn.
	Emma Ann (Bogart)	4			Penn.
	Jesus Moreno	30	--	laborer	Mexico
432	Ignacio Alvarado	43	300	farmer	Calif.
	Maria	30			Calif.
	Jose Juan	19		laborer	Calif.
	Juan de Dios	18		laborer	Calif.
	Ampara	2			Calif.
	Monica (Indian)	15			Calif.
433	Ignacio Palomarez	45	2000	grazier	Calif.
	Concepcion	35			Calif.
	Luis	15		laborer	Calif.
	Tomas	13			Calif.
	Francisco	9			Calif.
	Manuel	8			Calif.
	Teresa	12			Calif.
	Josefa	4			Calif.
	Teodosio Breida (?)	22	--	laborer	Mexico
	Francisca	18			Mexico
434	Juan Nepomoceno Alvarado	60	1500	farmer	Calif.
	Barbara	50			Calif.
	Mariano	30	--	farmer	Calif.
	Soledad	13			Calif.
	Soledad	7			Calif.
	Josefa	5			Calif.
	Jose Maria	4			Calif.
	Tomaso	3/12			Calif.
	Isadoro	22	--	farmer	Calif.
	Concepcion	18			Calif.
	Narcissa	20			Calif.
	Joaquin	8			Calif.
	Maria Antonia	6			Calif.
	Miguel	2			Calif.

Family No.	Name	Age	Net Worth ($)	Occupation	Place of Birth
	Olverto (Indian)	40	--	laborer	Calif.
	Juan (Indian)	14			Calif.
	Altagracia	16			Calif.
	Maria Ignacia	11			Calif.
	Andrea	5			Calif.
	Juan Jose Matteas	40	--	laborer	Mexico
	Mariana	20			Calif.
	Felicita	10			Calif.
	Francisca	3			Calif.
	Polomia	4			Calif.
435	Leon V. Prudhomme	28	1400	grazier	France
	Maria	18			Calif.
	Emily	2			Calif.
	Jose LaCruz Tapia	13			Calif.
	Maria P. Villa	13			Calif.
	Maria S.	11			Calif.
	Nicholas (Indian)	3			Calif.
436	Juan Valdez	50	--	laborer	N. Mex.
	Juana Felicia Valdesa	60	500		N. Mex.
	Guadalupe	12			Calif.
	Felipe (Indian)	14			Calif.
437	Hippolito Espinosa	50	1000	farmer	N. Mex.
	Maria	36			N. Mex.
438	Joaquin Moya	60	2000	farmer	N. Mex.
	Maria A.	35			N. Mex.
	Jose La Luz	20	--	laborer	N. Mex.
	Maria F.	9			N. Mex.
	Jose F.	7			N. Mex.
	Jose Ignacio	4			Calif.
	Maria A.	3			Calif.
439	Jesus Martinez	22	200	farmer	N. Mex.
	Guadalupe	30			N. Mex.
	Antonio Maria	13			N. Mex.
440	Jose Leon Gallego	28	--	laborer	N. Mex.
	Nicolasa Alavid	27			N. Mex.
441	Jose Ignacio Moya	43	200	farmer	N. Mex.
	Maria	36			N. Mex.
	Gregorio Atencis (?)	20	--	laborer	N. Mex.
	Juana	18			N. Mex.
	Jose Isidro Moya	45	--	laborer	N. Mex.
	Jose Antonio	13			N. Mex.
	Maria E.	11			N. Mex.
	Jose Paula	6			N. Mex.

Family No.	Name	Age	Net Worth ($)	Occupation	Place of Birth
	Maria Jesus	3			Calif.
	Maria (Indian)	2			Calif.
	Maria Rita (Indian)	16			Calif.
442	Juan Augustin Capula	40	200	farmer	N. Mex.
	Maria	21			N. Mex.
	Jose	9			N. Mex.
	Juan	7			Calif.
	Jose DeLaVi	4			Calif.
	Antonio Martinez	28	--	laborer	N. Mex.
443	Maria Susana Ribel	39	250	farmer	N. Mex.
	Jose Paulo Vilardo	20	--	laborer	N. Mex.
	Francisco	17		laborer	N. Mex.
	Jose Quiviero	19		laborer	N. Mex.
	Jose Antonio	13			N. Mex.
	Maria	7			N. Mex.
	Jose Vicente	4			Calif.
	Jose Garcias	2			Calif.
	Francisco Abila	18	--	laborer	N. Mex.
444	Juan Roquez Ortega	30	--	laborer	N. Mex.
	Anna Maria	20			N. Mex.
445	Candelaria Martina	35	500	------	N. Mex.
	Maria Ignacia	6			Calif.
	Jose	4			Calif.
	Jesus	4			Calif.
446	Manuel Quintana	20	--	laborer	N. Mex.
	Maria	18			N. Mex.
447	Juan Jose Garamis	40	400	farmer	N. Mex.
	Maria	33			N. Mex.
	Antonio	17		laborer	N. Mex.
	Felipe	15		laborer	N. Mex.
	Leandro	12			N. Mex.
	Maria	10			N. Mex.
	Maria G.	8			N. Mex.
	Felipe Olivez	33	--	laborer	Mexico
	Miguel	18		laborer	Mexico
448	Manuel Lorenzo Trujillo	79	400	farmer	N. Mex.
	Maria	52			N. Mex.
	Antonio	32	300	farmer	N. Mex.
	Maria P.	22			N. Mex.
	Antonio R.	2/12			Calif.
	Sepulveda	28			N. Mex.
	Dorotio (?)	23		laborer	N. Mex.
	Maria	18			N. Mex.

Family No.	Name	Age	Net Worth ($)	Occupation	Place of Birth
	Antonio LaLuz Valdez	34	--	laborer	N. Mex.
	Maria M.	34			N. Mex.
	Marcelino Garcia	34	--	laborer	N. Mex.
449	Antonio Garcia	75	300	farmer	N. Mex.
	Julian	17		farmer	N. Mex.
	Rafaela	19			N. Mex.
	Jose Antonio	14			N. Mex.
	Rafaela	2			N. Mex.
450	Juan Jesus Molino	90	--	laborer	N. Mex.
	Juana M.	45			N. Mex.
	Maria	30			N. Mex.
	Tomasa	16			N. Mex.
	Cornelio	12			N. Mex.
451	Isaac Slover (?)	70	250	farmer	Penn.
	Maria Barbara	40			N. Mex.
	Manuel Espinosa	31	--	laborer	N. Mex.
	Tomas Arragon	18	--	laborer	Penn.
452	Jose Maria Lugo	43	2000	grazier	Calif.
	Maria Antonia	39			Calif.
	Francisco	23		(illeg.)	Calif.
	Francisco	16		(illeg.)	Calif.
	Luis	15		(illeg.)	Calif.
	Jose Antonio F.	10			Calif.
	Dolores	13			Calif.
	Jose Antonio	11			Calif.
	Francisco Salgado	7			Calif.
	Juan	6			Calif.
	Jose Ant.	5			Calif.
	Adelaida	2			Calif.
	Peter de La Back	24	--	laborer	France
	Felipe Mendoza	22	--	laborer	Mexico
	Crespin (?) (Indian)	40	--	laborer	Calif.
	Josefa (Indian)	16			Calif.
453	Francisco Aguella	28	--	farmer	Mexico
	Tomasa	22			Calif.
	Maria	6			Calif.
	Erolinda	5			Calif.
	Maria	2			Calif.
	Tomasa	1			Calif.
	Augusta (Indian)	13			Calif.

Family No.	Name	Age	Net Worth ($)	Occupation	Place of Birth
454	Jose Carmel Lugo	38	2000	grazier	Calif.
	Rafaela	38			Calif.
	Jose Antonio	16		(illeg.)	Calif.
	Concepcion	15			Calif.
	Josefa A.	14			Calif.
	Pilar	6			Calif.
	Alexander Martins	22	--	laborer	Illinois
	Juana	6			Mexico
	Marciana (Indian)	40			Calif.
	Maria Del Carmel	2			Calif.
455	Jose Bermudez	80	--	farmer	Mexico
	Maria	50			Calif.
	Jose Jesus	24	--	laborer	Calif.
	Juliana	20			Calif.
	Ramon	4			Calif.
	Secundino	22	--	laborer	Calif.
	Maria Catalina	20			Calif.
	Jose Innocenta	3			Calif.
	Rafael	18	--	laborer	Calif.
	Miguel	14			Calif.
	Pedro	12			Calif.
	Refugia	9			Calif.
	Mariano	25	--	laborer	Calif.
	Vittoriano Vega	40	--	laborer	Mexico
456	Mariano Elisalda	28	--	laborer	Calif.
	Maria Catalina	19			Calif.
	Santiago Ibarra	7			Calif.
457	Antonio Porido (?)	29	200	farmer	N. Mex.
	Donaciano	13			N. Mex.
	Maria (Indian)	40			N. Mex.
453	Louis Robidoux	54	5000	farmer	Mexico
	Guadaloupe	38			N. Mex.
	Catalina	15			N. Mex.
	Luis	12			N. Mex.
	Pascual	10			N. Mex.
	Carmel	8			Mexico
	Adelaida	6			Calif.
	Benina	3/12			Calif.
	Louis F. Robidoux	31	--	farmer	Mexico
	Incarnacion Garcia	49	--	laborer	N. Mex.
	Jesus Ramon	35	--	laborer	Mexico
	Jose Antonio	10			Calif.

Family No.	Name	Age	Net Worth ($)	Occupation	Place of Birth
459	Mattias Morales	28	--	laborer	Mexico
	Vittoriana	25			Mexico
	Juan	2			Calif.
	Francisca	1			Calif.
460	Leonardo Cota	34	--	farmer	Calif.
	Inez	28			Calif.
	Manuelito	2			Calif.
	Guillermo	3/12			Calif.
	Jose Padiga (?)	25	--	laborer	Mexico
461	Ramon Aguilar	45	--	laborer	Mexico
	Concepcion	28			Calif.
	Abran	2			Calif.
	Bernadino Montes	43	--	laborer	Mexico
	Juana	39			Mexico
462	Pablo Morales	40	--	laborer	Mexico
	Dominga Alvarez	16			Calif.
	Ramona Orantes (?)	36			Calif.
463	Powel Weaver	50	--	sawyer	Lsiana
	Duffy Weaver	28	--	sawyer	Lsiana
464	Jose Ignacio Salazar	31	300	farmer	N. Mex.
	Florentina	20			N. Mex.
	Ignacia	5			Calif.
	Refugia	1			Calif.
	Santiago (Indian)	15	--	laborer	N. Mex.
465	Juan Jose Sarasmiya	40	500	farmer	N. Mex.
	Josefa	32			N. Mex.
	Antonio	10		laborer	N. Mex.
	Felipe	16		laborer	N. Mex.
	Leandro	14			N. Mex.
	La Luz	12			N. Mex.
	Lupita	10			N. Mex.
	Juan	8			N. Mex.
	Labella	6			Calif.
466	Evan Callahan	38	300	farmer	Missouri
	Maria Antonia	22			Calif.
	William	6			Calif.
	John	5			Calif.
	Edward	3			Calif.
	Edward L.	1			Calif.
	Edward Callahan	40	--	farmer	Missouri
	William Bevonela (?)	22	--	laborer	New York
	Curran Cowg (?)	18	--	laborer	Missouri
	Daniel Callahan	24	--	laborer	Missouri

Family No.	Name	Age	Net Worth ($)	Occupation	Place of Birth
	George T. Harden	20	--	laborer	S. Caro.
	Jesus (Indian)	15	--	laborer	Calif.
467	Leonardo Serano	77	4000	grazier	Calif.
	Josefa	30			Calif.
	Ramona	12			Calif.
	Leonor	10			Calif.
	Maria	9			Calif.
	Maria de Los Angeles	7			Calif.
	Dolores	2			Calif.
	Leonardo	4			Calif.
	Alejandro (Indian)	20			Calif.
468	Manuel Aguque (?) (Black)	48	--	laborer	Mexico
	Tomasa (Black)	35			Mexico
	Julian	18	--	laborer	Mexico
	Felipe	15	--	laborer	Mexico
469	Joaquin Arci (elsewhere, Arce)	33	--	farmer	Mexico
	Maria Antonia	25			Mexico
	Merced	8			Mexico
	Lauriano	6			Mexico
	Ramon	5			Mexico
	Jose Vidal	1			Calif.
	Jose	1			Calif.
470	Emidio Bejar	42	3000	farmer	Calif.
	Rafaela	32			Calif.
	Maria S.	14			Calif.
	Isidora	11			Calif.
	Francisco	9			Calif.
	Ramon	6			Calif.
	Juan	4			Calif.
471	Mattias Garcia	30	--	shoemaker	Calif.
	Presentacion	32			Calif.
472	Maria Gracia Garcia	30	--	---------	Calif.
	Martisia Verdugo	18			Calif.
	Augusta	12			Calif.
	Leonardo	10			Calif.
	Andrea	7			Calif.
	Adelaida	5			Calif.
	Josefa	1			Calif.
473	Francisco Garcia	22	--	laborer	Calif.
	Concepcion	16			Calif.
	Jose Maria	3/12			Calif.

Family No.	Name	Age	Net Worth ($)	Occupation	Place of Birth
474	Jose Maria Caneda	36	--	laborer	Calif.
	Rosaria	31			Calif.
	Francisco	19		laborer	Calif.
	Fernando	15			Calif.
	Salvador	13			Calif.
	Jesus	11			Calif.
	Manuel	9			Calif.
475	Vicente Ramirez	29	--	laborer	Calif.
	Maria	21			Calif.
	Maria C.	3			Calif.
476	Maria Jesus Serano (elsewhere, Serrano)	40	250	--------	Calif.
	Severiano Rodriquez	30	--	laborer	Calif.
	Presentia	25			Calif.
	Lazaro Serano	20	--	laborer	Calif.
	Matia	19			Calif.
	Feliz	16	--	laborer	Calif.
	Matilda	14			Calif.
	Maria	15			Calif.
	Francisco	13			Calif.
477	John Foster (elsewhere, Forster)	36	20,000	grazier	England
	Isadora	40			Calif.
	Marco Antonio	11			Calif.
	Francisco P.	9			Calif.
	John F.	5			Calif.
	George H.	3			Calif.
	Carolina	1 1/2			Calif.
	Hugh Foster	21	--	laborer	England
	Thomas Foster	30	--	laborer	England
	Tomasin	22			England
	Elliot Libbey	39	--	shipmaster	Maine
	Emilio Lopera (?)	30	--	schoolmaster	Chile
	Juan Serana	20	--	laborer	Mexico
478	Manuel Manriquez	24	5000	farmer	Calif.
	Vicente	22			Calif.
	Guadaloupe	5			Calif.
	Adolfo	3			Calif.
	Maria L.	1			Calif.
	Juan Manriquez	20	--	laborer	Calif.

Family No.	Name	Age	Net Worth ($)	Occupation	Place of Birth
479	Blas Guerrero	30	--	laborer	Mexico
	Manuela	24			Mexico
	Jose	9			Mexico
	Jesus	7			Mexico
	Tiburcio	4			Mexico
	Donacion	1			Calif.
	Ferdinand Worth	46	--	(illeg.)	New York
	Ascension	18			Mexico
	Casimiro Feliz	20	--	laborer	Mexico
	Acadio Feliz	12			Mexico
480	Bernado Velasquez	30	--	laborer	Mexico
	Venancia	25			Mexico
	Teodosio	1			Calif.
	Anna Maria Ocana	3			Mexico
481	Mattias Oliverez	45	--	laborer	Calif.
	Pascuala	40			Calif.
	Maria A.	15			Calif.
	Incarnacion	13			Calif.
	Isidoro	10			Calif.
	Juana	8			Calif.
	Eulogio	6			Calif.
	Pondenciana	4			Calif.
482	Francisca Vinedes	25	--	----------	Calif.
	Josefa	5			Calif.
	Maria	1			Calif.
483	Brigido Morillo	25	--	laborer	Calif.
	Antonia	23			Calif.
	Miguel	5			Calif.
	Miguel Gracia	5			Calif.
	Carmel	3			Calif.
484	Maria G. Ibarra	60	--	---------	Calif.
	Jose Sepas (?)	46	250	farmer	Calif.
	Maria A.	35			Calif.
	Maria R.	14			Calif.
	Dorotio	12			Calif.
	Alejo	9			Calif.
	Gerbacio (?)	7			Calif.
	Dolores	6			Calif.
	Maria Jesus	4			Calif.
	Maria B.	3/12			Calif.
485	Guillermo Quinto	50	--	laborer	Calif.

Family No.	Name	Age	Net Worth ($)	Occupation	Place of Birth
486	Miguel Parra	55	--	farmer	Mexico
	Antonia	40			Mexico
	Maria	20			Mexico
	Jose	18		laborer	Mexico
	Alejo	16		laborer	Mexico
	Isabel	15			Mexico
	Anachita	13			Mexico
	Miguel	11			Mexico
	Maria Jesus	7			Mexico
487	Manuel Garcia	30	--	laborer	Portugal
	Paula	18			Calif.
	Juana	1			Calif.
488	Silvisio (?) Rios	57	300	farmer	Calif.
	Juana	56			Calif.
	Gregorio	19		laborer	Calif.
	Jose Dolores	17		laborer	Calif.
	Mariano	15		laborer	Calif.
	Maria	12			Calif.
	Juan B.	10			Calif.
	Macedonio	8			Calif.
	Beleriana	5			Calif.
489	Francisco Velardez	46	--	hatter	Mexico
	Rafaela	30			Mexico
	Tomas	14			Mexico
	Maria	12			Mexico
	Lucas	7			Mexico
	Manuel	1			Calif.
490	Tomas Guttierez	67	250	farmer	Mexico
	Maria A.	53			Mexico
	Blas Aguilar	25	--	laborer	Calif.
	Maria I.	20			Calif.
	Francisco Guttierez	16		laborer	Calif.
	Petra	12			Calif.
	Mariana	10			Calif.
	Roman	7			Calif.
	Leonicio (?) Soto	19	--	laborer	Calif.
	Polomia Montana	21			Calif.
	Maria	14			Calif.
	Bruno	12			Calif.

Family No.	Name	Age	Net Worth ($)	Occupation	Place of Birth
491	Santiago Rios	50	2000	farmer	Calif.
	Isabel	51			Calif.
	Maria R.	6			Calif.
	Jose Maria Uribez	47	--	laborer	Calif.
	Clara	24			Calif.
	Jose Antonio Uribez	10			Calif.
	Lonjisio (?) Limons (?)	28	--	laborer	Calif.
492	Juan Abila	38	5000	grazier	Calif.
	Soledad	45			Calif.
	Rosa	15			Calif.
	Donaciano	13			Calif.
	Guadaloupe	9			Calif.
	Teofilo Pifano	2			Calif.
	Antonio Ignacio Abila	70	--	grazier	Mexico
	Rosa	50			Calif.
	Malena Yava (Yorba)	40			Calif.
	Pedro A. Abila	25		laborer	Calif.
	Fernando Silvas	16	--	laborer	Calif.
	Salvador Caneda	20	--	laborer	Calif.
493	Antonio Serano	38	2000	grazier	Calif.
	Juana	23			Calif.
	Concepcion	10			Calif.
	Isabel	8			Calif.
	Cornelio	6			Calif.
	Romaldo	2/12			Calif.
494	Jose Sepulveda	48	12,000	grazier	Calif.
	Francisca	39			Calif.
	Mauricio	19		(illeg.)	Calif.
	Ramona	16			Calif.
	Antonia B.	14			Calif.
	Joaquin	12			Calif.
	Andronico (?)	10			Calif.
	Antonio J.	8			Calif.
	Concepcion	6			Calif.
	Maria T.	2			Calif.
	Jacobo (Indian)	35	--	laborer	Calif.
	Augustin (Indian)	28	--	laborer	Calif.
	Tiburcio (Indian)	20	--	laborer	Calif.
	Jose (Indian)	17	--	laborer	Calif.
	Feliz (Indian)	24	--	laborer	Calif.
495	Miguel Yava (Yorba)	35	500	farmer	Calif.
	Josefa	28			Calif.
	Refugia	10			Calif.
	Encarnacion	8			Calif.
	Modesta	6			Calif.
	Susana	4			Calif.

Family No.	Name	Age	Net Worth ($)	Occupation	Place of Birth
	Ariana	6/12			Calif.
	Rafael Iguerra	21	--	laborer	Mexico
496	Francisco Rodriguez	30	--	laborer	Calif.
	Maria	40			Calif.
	Julian	6			Calif.
	Francisco	5			Calif.
	Francisco P.	3			Calif.
	Francisco A.	3			Calif.
	Delfina	4			Calif.
	Ramona	2			Calif.
	Juan Lopez	34	--	laborer	Mexico
	Mejel Oliverez	23	--	laborer	Calif.
	Cornelia	15			Calif.
497	Ramon Yava (Yorba)	40	500	farmer	Calif.
	Prudencia Morillo	60			Calif.
	Guadaloupe Ruiz	25			Calif.
	Ascencion	18			Calif.
	Jose Oliverez	20	--	laborer	Calif.
	Jose R.	3			Calif.
	Luisa (Indian)	12			Calif.
	Rafael (Indian)	6			Calif.
	Catalina Morillo	25			Calif.
498	Rafael Peralta	29	1000	farmer	Calif.
	Catalina Ruiz	60			Calif.
	Catalina Manriquez	27			Calif.
	Jose Dolores	12			Calif.
	Concepcion	10			Calif.
499	Mejel Bermudez	50	--	laborer	Calif.
	Estefana	45			Calif.
	Juan A. Bustamente	30	--	laborer	Calif.
	Juana	24			Calif.
	Salvado Bustamente	20	--	laborer	Calif.
	Vicente	15		laborer	Calif.
	Juana	11			Calif.
	Juliana	8			Calif.
	Tomas	13			Calif.
	Domingo	6			Calif.
	Gertrudes	5			Calif.
	Juan J.	2			Calif.
500	Maria Yava (Yorba)	50	2000	---------	Calif.
	Domingo	20	--	grazier	Calif.
	Maria	16			Calif.
	Jose Antonio	3			Calif.
	Francisca	2			Calif.

Family No.	Name	Age	Net Worth ($)	Occupation	Place of Birth
	Jose Lopez	67	--	laborer	Calif.
	Maria	52			Calif.
	Jose Lisalda	25	--	laborer	Calif.
	Francisco Silvas	20	--	laborer	Calif.
	Luciano Leiba (?)	20	--	laborer	Mexico
	Jose Martin	18	--	laborer	Mexico
	Francisco Baltazar	18	--	laborer	Mexico
501	Antonio Yava (Yorba)	40	3000	grazier	Calif
	Benina	42			Calif.
	Jose DeG. (?)	8			Calif.
	Gumacindo	6			Calif.
	Nimfa	12			Calif.
	Natalia	5			Calif.
	Manuel Lopez	20	--	---------	Calif.
	Salvador	5			Calif.
	Pelegrina	7			Calif.
	Rufino (Indian)	16	--	laborer	Calif.
502	Teodosio Yava (Yorba)	44	3000	grazier	Calif.
	Antonia	38			Calif.
	Desiderio Burnel	30	--	laborer	Mexico
	Maria	20			Calif.
	Jose Antonio	2			Calif.
	Sebastiana	2/12			Calif.
	Tomas Burnel	20	--	laborer	Mexico
	Jose Quivas	22	--	laborer	Mexico
	Boutuso Garcia	40	--	laborer	Mexico
	Ignacio Martinez	40	--	laborer	Mexico
	Ignacio Escalan	44	--	laborer	Mexico
	Maria Antonia (Indian)	19			Calif.
	Reducinda (Indian)	18			Calif.
	Teodosio Yava	1			Calif.
	Jesus Burnel	25	--	laborer	Mexico
503	Ramon Carillo	28	3000	grazier	Calif.
	Vicenta	31			Calif.
	Juan	13			Calif.
	Jose Antonio	11			Calif.
	Josefa	9			Calif.
	Ramona	7			Calif.
	Ramon	3			Calif.
	Maria S.	1			Calif.
	Ramon Aquilar	50	--	laborer	Calif.
	Maria	20			Calif.
	Ramon	2			Calif.
	Fernando (Indian)	8			Calif.
	Teresa (Indian)	6			Calif.

Family No.	Name	Age	Net Worth ($)	Occupation	Place of Birth
504	Manuel Feliz	33	200	laborer	Calif.
	Josefa	30			Calif.
	Ramon	7			Calif.
	Jordagi (?)	5			Calif.
	Jose Jesus	3/12			Calif.
	Paula Peralta	32			Calif.
505	Pablo Peralta	42	5000	grazier	Calif.
	Maria	36			Calif.
	Maria	20			Calif.
	Jose Dominguez	23	--	laborer	Calif.
	Maria A.	18			Calif.
	Trinidad Peralta	15			Calif.
	Soledad	14			Calif.
	Maria Jesus	12			Calif.
	Ramon	10			Calif.
	Maria G.	7			Calif.
	Madalena	5			Calif.
	Merced	2			Calif.
	Francisco Torres	21	--	laborer	Mexico
	Marcelino Garcia	23	--	laborer	Mexico
506	Bernardo Yava (Yorba)	49	20,000	grazier	Calif.
	Felipa	36			Calif.
	Raimundo	25		grazier	Calif.
	Jose Antonio	3			Calif.
	Francisca	1/12			Calif.
	Prudencio	18		(illeg.)	Calif.
	Jose Jesus	17		(illeg.)	Calif.
	Marcos	16		(illeg.)	Calif.
	Andres	14			Calif.
	Trinidad	10			Calif.
	Vicente	8			Calif.
	Tomas	3			Calif.
	Teodocio	2			Calif.
	Leonora	12			Calif.
	Lenonda	6			Calif.
	Eusebio Ortega	70	--	laborer	Mexico
	Felipe Peralta	32	--	laborer	Calif.
	Tomas Sabalete	33	--	laborer	Mexico
507	Marcos Perez	50	--	farmer	Calif.
	Linda	35			Calif.
	Madalena	13			Calif.
	Modesta	3			Calif.
	Guadaloupe Perez	96	(?)		Mexico
	Petra	26			Mexico

Family No.	Name	Age	Net Worth ($)	Occupation	Place of Birth
508	Anastacio Botellero	28	--	farmer	Calif.
	Maria	19			Calif.
	Jesus	3			Calif.
	Adolfo	4/12			Calif.
509	Juan P. Ontivera	40	3000	grazier	Calif.
	Martina	32			Calif.
	Patricio	16		laborer	Calif.
	Dolores	14			Calif.
	Ramon	12			Calif.
	Juan	10			Calif.
	Florentino	8			Calif.
	Rita	6			Calif.
	Salvadora	5			Calif.
	Jose	4			Calif.
	Abran	2			Calif.
510	Augusto Alemani	20	--	farmer	Germany
	Petra	18			Calif.
511	Manuel Romero	34	--	laborer	Calif.
	Gregoria	40			Calif.
	Maria	11			Calif.
	Francisca	5			Calif.
	Eugenio	7			Calif.
	Manuel	10			Calif.
	Jose	5			Calif.
	Jose Dolores	1			Calif.
	Guadaloupe	14			Calif.
512	Francisco Campo	28	1000	grazier	Mexico
	Francisca	40			Calif.
	Pedro Uribes	20	--	laborer	Calif.
	Isabel	18			Calif.
	Jose Jesus Uribez	19	--	laborer	Calif.
	Carlota	25			Calif.
513	Anastacio Feliz	50	--	laborer	Calif.
	Gertrudez	25			Calif.
	Juana	12			Calif.
	Francisca	10			Calif.
	Jesus	8			Calif.
	Vicenta	7			Calif.
	Raimundo	5			Calif.
	Antonio Espeleta	50	--	laborer	Mexico
514	Vicente Lugo	28	--	grazier	Calif.
	Andrea	23			Calif.
	Antonio M.	7			Calif.
	Barbara	5			Calif.
	Carlos	3			Calif.

Family No.	Name	Age	Net Worth ($)	Occupation	Place of Birth
	Pedro Venegas	27	--	(illeg.)	Chile
	Henrique Belonona (?)	21	--	(illeg.)	Peru
	Romano Bayastero	40	--	laborer	Calif.
	Pedro Martinez	25	--	laborer	Mexico
515	Trinidad Duarte	55	--	laborer	Calif.
	Maria I.	48			Calif.
	Maria J.	25			Calif.
516	Vicenta Lugo	25	--	--------	Calif.
	Maria	5			Calif.
	Antonio	3			Calif.
517	Oben Macy	49	--	physician	N. Caro.
	Lucinda	43			Indiana
	Oscar	21	--	laborer	Indiana
	Nancy	18			Indiana
	Louisa	16			Indiana
	William	12			Indiana
	Oben	10			Indiana
	Lucinda	7			Indiana
	Mary Jane	2			Indiana
518	Samuel Heath	45	--	farmer	Miss.
	Eliza A.	35			Miss.

End of 1850 Census

APPENDIX B:

ADULT MALES BORN IN THE UNITED STATES IN THE PRADO BASIN CULTURE AREA IN 1850

Name	House No.	Occupation	Net Worth ($)	State of Birth
Williams, I.	427	grazier	100,000	Pennsylvania
Sturges	"	physician	--	New York
Smith	"	carpenter	--	Virginia
Dobson	"	hatter	--	Kentucky
Avery	"	blacksmith	--	New York
Cook	"	laborer	--	New York
Williams, G.	"	blacksmith	--	Pennsylvania
Whitney	428	laborer	--	New York
Christman, C.	429	farmer	--	Kentucky
Christman, G.	"	laborer	--	Illinois
Ellige	"	laborer	--	Illinois
Lewis, John	"	laborer	--	Illinois
Lewis, William	"	laborer	--	Illinois
Dobson	430	laborer	--	No. Carolina
(Chino Barracks)				
Lovell	431	Army Cptn.	--	So. Carolina
Schureman	"	1st Lt.	--	New Jersey
Smith	"	2nd Lt.	--	Virginia
Overstreet	"	Srgnt.	--	So. Carolina
Bogart	"	soldier	--	New York
Cole	"	soldier	--	Maryland
Cook	"	soldier	--	Massachusetts
Danforth	"	soldier	--	Massachusetts
Harris	"	soldier	--	Virginia
Hoff	"	soldier	--	Pennsylvania
Slover, I.	451	farmer	250	Pennsylvania
Arragon	452	laborer	--	Pennsylvania
Martins	454	laborer	--	Illinois
Weaver, P.	463	sawyer	--	Louisiana
Weaver, D.	"	sawyer	--	Louisiana

Name	House No.	Occupation	Net Worth ($)	State of Birth
Callahan, Evan	466	farmer	300	Missouri
Callahan, Ed	"	farmer	--	Missouri
Bevonela	"	laborer	--	New York
Cowq	"	laborer	--	Missouri
Callahan, Dan	"	laborer	--	Missouri
Harden	"	laborer	--	So. Carolina
Libbey	477	shipmaster	--	Maine
North	479	(illeg.)	--	New York
Macy, Oben	517	physician	--	No. Carolina
Macy, Oscar	"	laborer	--	Indiana
Heath	518	farmer	--	Mississippi

APPENDIX C:

EUROPEAN BORN MEN IN THE PRADO BASIN AREA IN 1850

Name	House No.	Occupation	Net Worth ($)	Birthplace
Cliff	427	(illeg.)	--	England
Rowan	"	millwright	--	England
Reader	"	laborer	--	England
(Chino Barracks)				
McCarty	431	soldier	--	Ireland
Lee	"	soldier	--	Ireland
Stuart	"	soldier	--	Ireland
Burns	"	soldier	--	Ireland
Dempsey	"	soldier	--	Ireland
Fox	"	soldier	--	Ireland
Gilogy	"	soldier	--	Ireland
Hains	"	soldier	--	England
Henning	"	soldier	--	Ireland
Jackson	"	soldier	--	Ireland
Macanally	"	soldier	--	Ireland
Maguire	"	soldier	--	Ireland
Maddigan	"	soldier	--	Ireland
Strobel	"	soldier	--	Sweden
Prudhomme	435	grazier	1400	France
De la Back	452	laborer	--	France
Forster, John	477	grazier	20,000	England
Forster, Hugh	"	laborer	--	England
Forster, Thomas	"	laborer	--	England
Lopera, E.	"	schoolmaster	--	Chile
Garcia	487	laborer	--	Portugal
Alemani	510	farmer	--	Germany
Venegas	514	(illeg.)	--	Chile
Belonona	"	(illeg.)	--	Peru

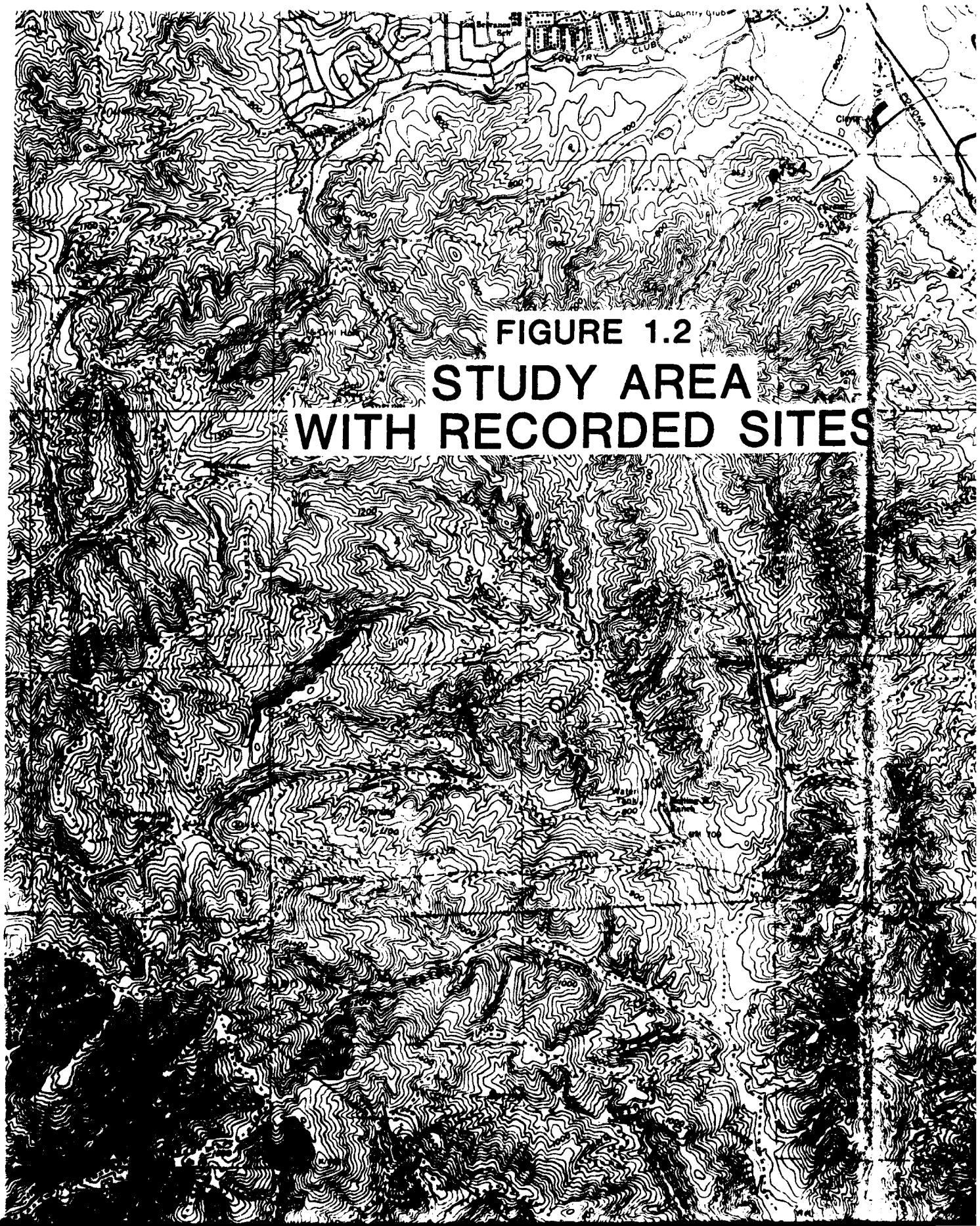
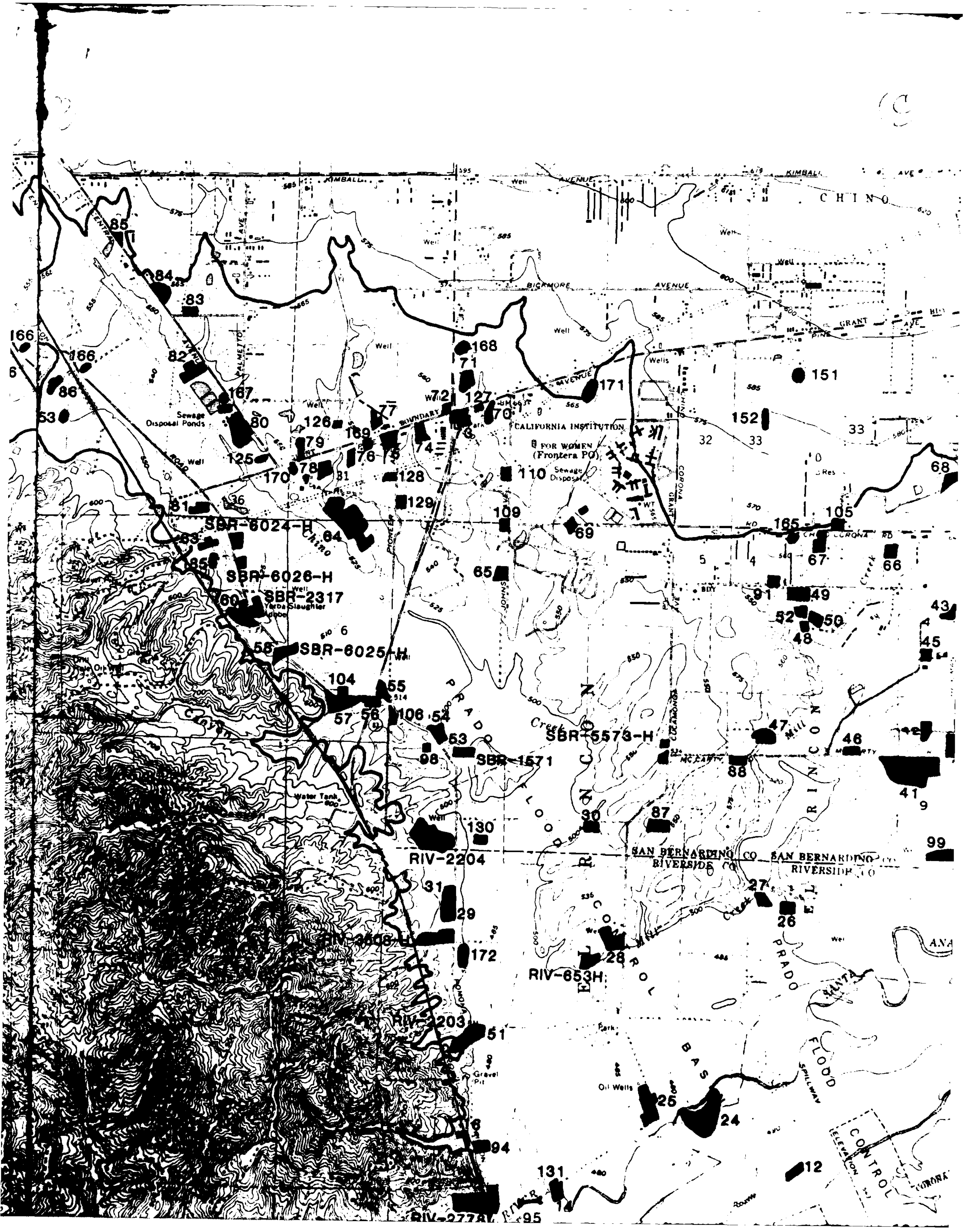


FIGURE 1.2
STUDY AREA
WITH RECORDED SITES


KIMBALL AVENUE
CHINO
BICKMORE AVENUE
GRANT AVE
Sewage Disposal Ponds
CALIFORNIA INSTITUTION FOR WOMEN (Frontera PO)
Sewage Disposal
SBR-6024-H
SBR-6026-H
SBR-2317
Yorba Slaughter Adobe
SBR-6025-H
SBR-5573-H
SBR-1571
RIV-2204
RIV-653H
RIV-2203
PRADO FLOOD
CONTROL BASIN
SAN BERNARDINO CO
RIVERSIDE CO
Water Tank
Oil Wells
Gravel Pit
SPILLWAY
Chino Creek
Mill Creek
RINCON
Canyon
85
84
83
166
82
86
53
167
80
125
126
77
72
127
171
168
71
70
151
152
79
169
76
75
74
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178
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109
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185
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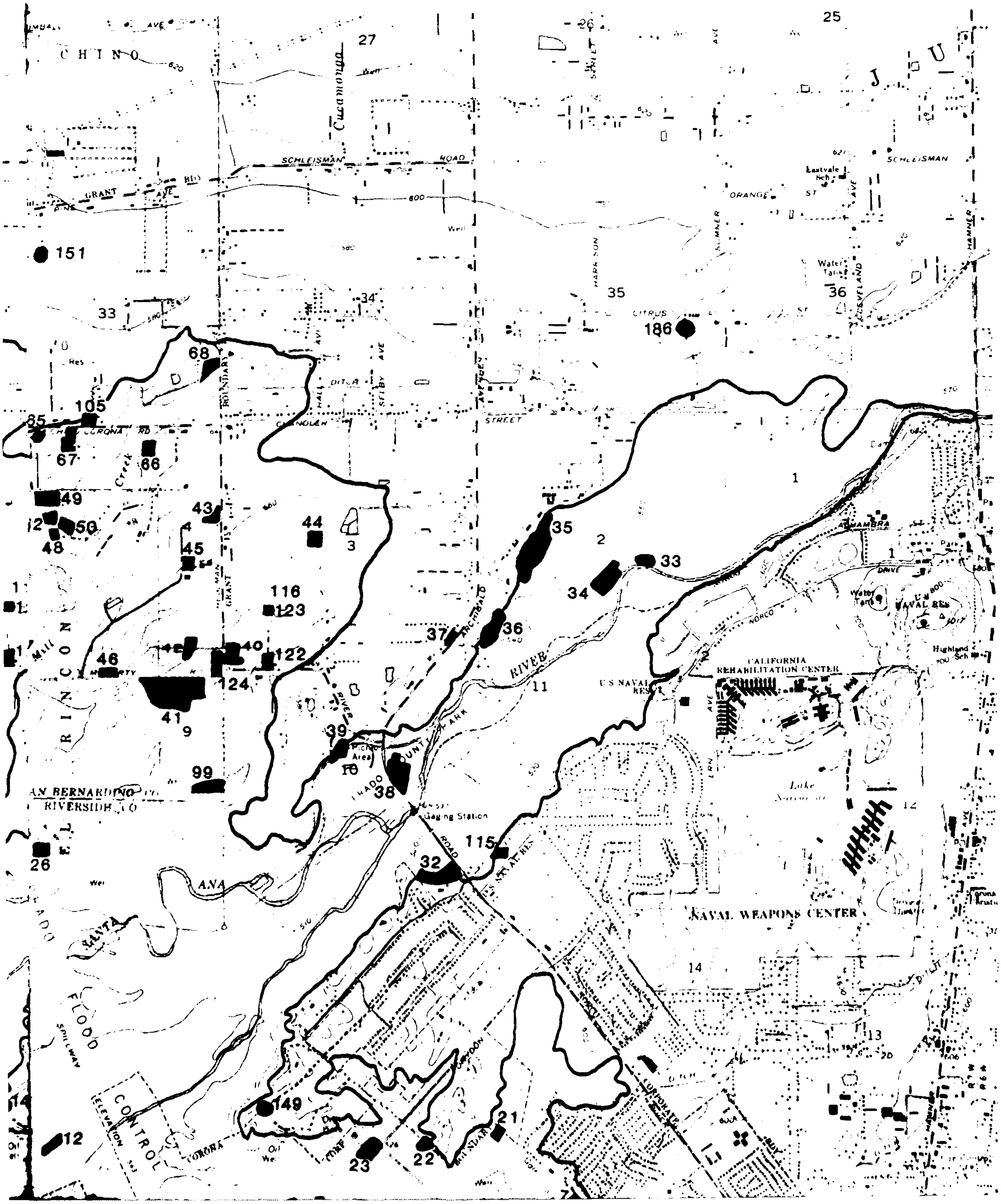
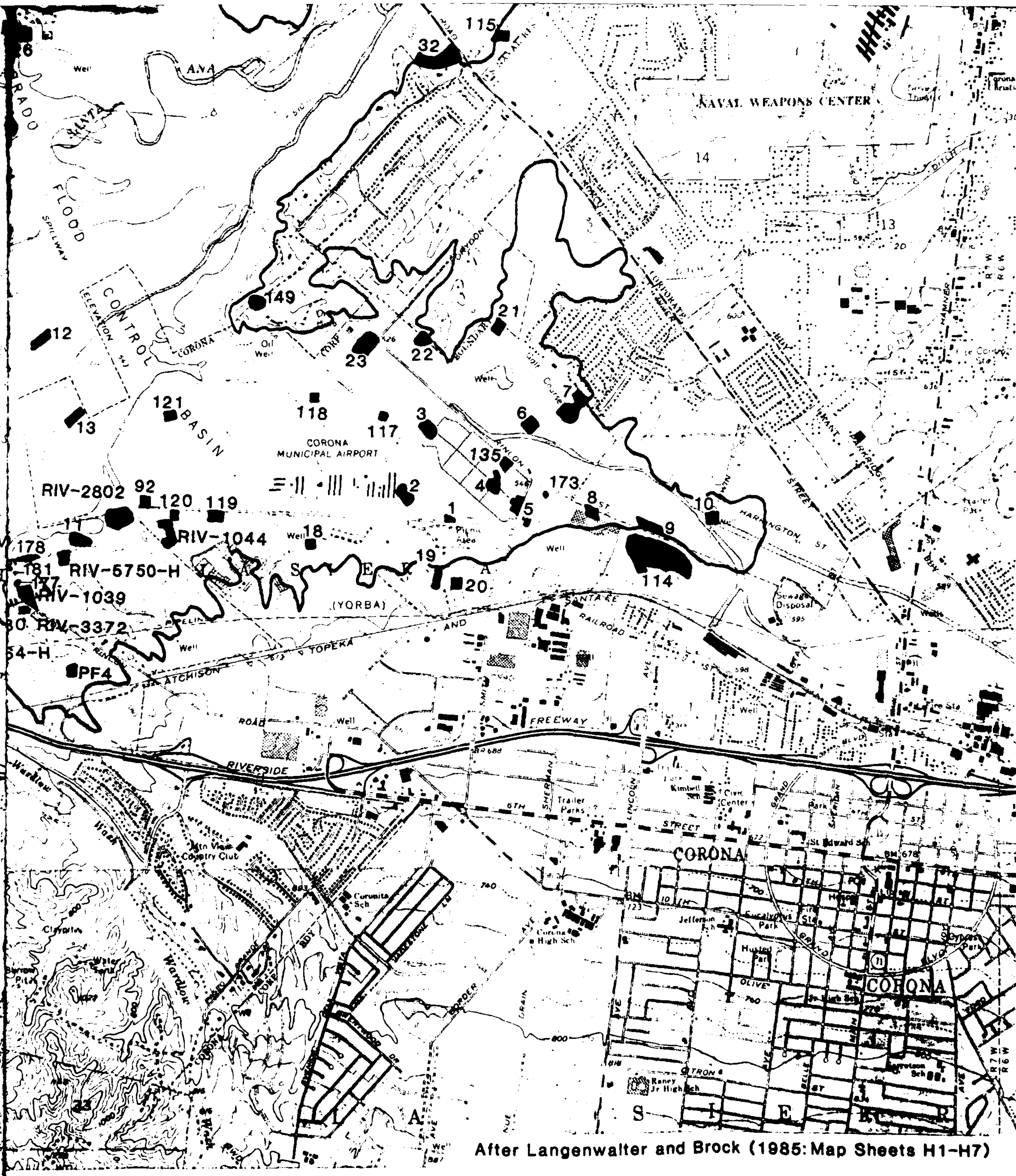
25
24
94
131
12
95


CHINO
Cucamonga
SCHLEISMAN ROAD
GRANT AVE
ORANGE ST
HARRISON
SUMNER
CLEVELAND
HAMNER
Eastvale Sch
Water Tank
CITRUS
CHANDLER
STREET
CHINO CORONA RD
HALL DITCH
SELBY AVE
ARCHIBALD
BOUNDARY
RIVER
RINCON
Mill Creek
ALHAMBRA
DRIVE
NORCO
NAVAL RES
Highland Sch
CALIFORNIA REHABILITATION CENTER
U S NAVAL RES
Lake Norconian
NAVAL WEAPONS CENTER
SAN BERNARDINO CO
RIVERSIDE CO
Gaging Station
Picnic Area
PRADO
SANTA ANA
FLOOD CONTROL
SPILLWAY
ELEVATION
CORONA
CORPORATE
DITCH
151
186
68
105
85
67
66
49
50
48
43
44
45
116
123
46
40
122
124
41
99
26
35
33
34
36
37
39
38
115
32
149
12
21
22
23
25
26
27
1
2
3
9
11
12
13
14


Horseshoe Bend
SANTA ANA RIVER
SANTIAGO DE SANTA ANA
143
144
146
142
Diversion Dam
CANAL
Well
BM 406
UNION
ANAHEIM
SANTA 137 ANA
CAÑON DE SANTA ANA
Santa Ana Canyon
SANTA ANA
REGIONAL RIVER PARK
CANYON
1000


31
29
RIV-3608-H
172
RIV-653H
28
27
26
CONTROL
PRADO
FLOOD
SPILLWAY
BASIN
RIV-2203
51
Gravel Pit
Oil Wells
25
24
16
94
12
131
14
RIV-2778
95
15
13
17
103
107
RIV-2802
92
113
96
102
175
176
178
H2C
181
RIV-5750
101
174
177
89
179
RIV-1039
93
PF3
180
RIV-3372
RIV-3964-H
184
97
100
183
PF4
133
182
112
108
Gaging Station
BM 460
BM 449
Drill Hole
SANTA
Wardlow
Wash
Prado Dam
RIVERSIDE
Golf Course
RIV-3593-H
138
139
CAÑON DE SANTA ANA
Golf Course
SANTA ANA
Water Tank
1 MILE
1000 0 1000 2000 3000 4000 5000 6000 7000 FEET
1 .5 0 1 KILOMETER



After Langenwalter and Brock (1985: Map Sheets H1-H7)

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